Motorised WARP

User Manual
Issue 1.1

ADB
Lighting Technologies

Disclaimer

Advice before Use

Read these instructions carefully.
As soon as the equipment is delivered, open packing and inspect the equipment carefully. If you notice any damage, contact the transport company immediately and register your complaint in due form listing the defects. Check if the received equipment is consistent with the delivery note and if this delivery note is consistent with your order. If it is not, contact your supplier immediately.

Warning

The luminaire may under no circumstances be modified. ADB will not assume any responsibility in case of damage resulting from modifications made to the luminaire. Always refer to authorized personnel for any repair.

Warranty

See our general conditions of sales; available on our Web Site.

Warranty sheet[1]

[1] Enclose with each Motorised WARP

Declaration of conformity

This luminaire is a piece of lighting equipment designed for professional indoor use in theatres and television or film studios. Designed and built in accordance with EN 60598-1 and EN 60598-2-17 regulations, it must imperatively be connected to earth by means of its earth wire. To prevent any electrical shock, this equipment should not be opened when it is powered up. Access to internal parts is not required for normal operation.

Any parts or lenses need to be replaced if they are visibly damaged and their efficiency might be reduced, e. g. in case of deep cracks or scratches. The lamp must be changed if damaged or distorted by heat. If internal access is needed for control, service or repair purposes, always refer to qualified personnel.

Standards and approvals

Safety standards:	EN 60598-1 and EN 60598-2-17
EMC standards:	EN 55022, Class A limits for emission and EN 50081-1, EN 50082-1
Susceptibility:	IEC 801-2, IEC 801-3 and IEC 801-4

Safety Notice

Always be sure to unplug the power supply cable before opening the fixture. It is the user's responsibility to use the luminaire for its intended purpose and to check the equipment that might be connected to it.

Power supply cables and other connections are essential for your equipment and contribute greatly to a safe and trouble free operation. Always pull the plug when disconnecting a cable, never pull the cable. Never use cables or connectors in bad condition. Check them before installation and periodically thereafter. Never tie power supply and data cables together.

This luminaire is designed for operating at a nominal voltage of 230 V (90 – 230 V in case of automatic power supply option). For your own safety, make sure the earth wire (yellow-green) is ALWAYS connected to earth.

WARNING: LETHAL VOLTAGE PRESENT INSIDE!

Foreword

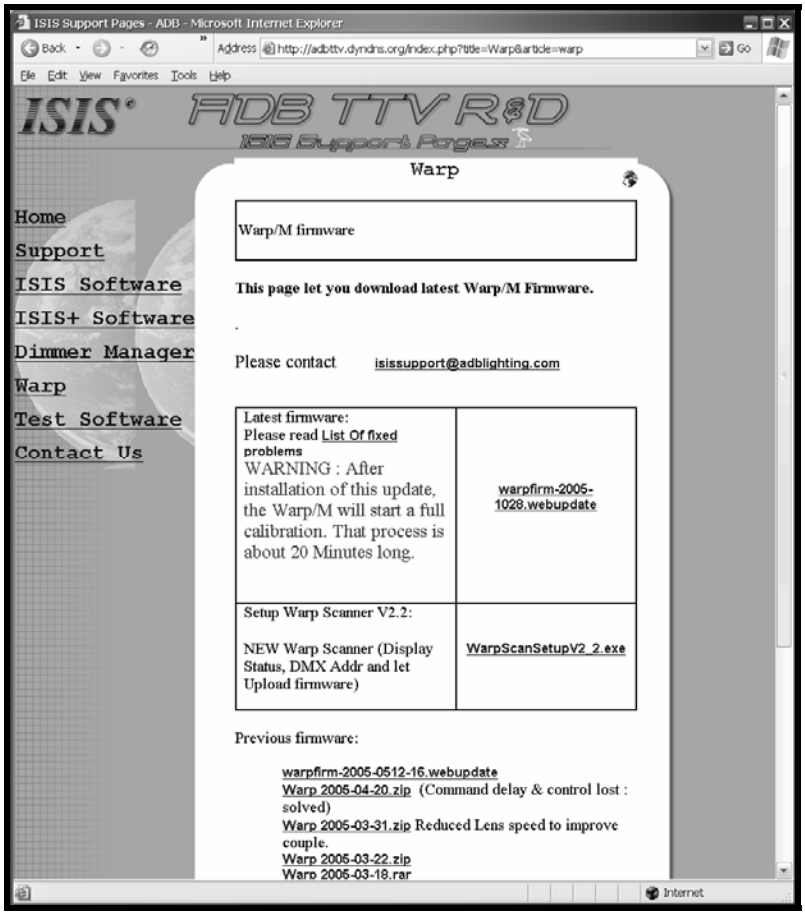
This issue 1.0 of the User Manual for Motorised WARP.

The latest version of ADB User Manuals is available from the ADB website.
www.adblighting.com > ADB Products > Product family > Product

For WARP and Motorised WARP
www.adblighting.com > ADB Products > Theatre Luminaires > WARP Motorised

The functions described in this User Manual require the latest software version. The latest software version is available on the ADB TTV R&D web site.

http://adbttv.dyndns.org/index.php?title=Warp&article=warp



Updates to this version of the user manual will follow.

Have fun with the motorised profile.

Zaventem, January 13, 2006.

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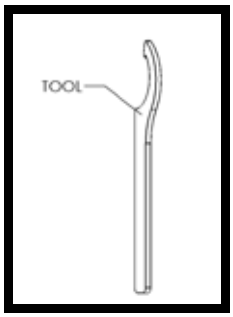
1 Shipping contents

1.1 WARP/M includes:

WARP/M includes:

- Warranty sheet
- WARP/M with open-ended cable (0,8 m) for lamp supply
- 1,6 m power supply cable with Neutrik PowerCon cable connector and open ends on the other side
- Hook clamps plate with 4 flame head fasteners (1/4 turn fasteners)
- User manual (CD Rom and/or paper version)
- Metal filter frame (185 x 185 mm)



- Balance tool

The lamp, hook clamps and accessories are optional. The next chapter describes the options and their ADB references.

Supply voltage
Operating range for standard WARP/M: 198 V to 264 V, 50/60 Hz.
Optional: operating voltage range 90 V to 264 VAC – 50/60 Hz.

Zoom range
WARP/M is available in 2 zoom ranges: 12° to 30° and 22° to 50°

WARP	ADB Reference	Code Number
Motorised zoom profile 12° - 30°	WARP/M/12-30	1017.10.020
Motorised zoom profile 22° - 50°	WARP/M/22-50	1017.10.030
Option: universal PSU, operational voltage range 90 – 264 VAC/ 50/60 Hz	PSU/UNIV/WARP/M	

1.2 Optional

1.2.1 Lamp

Lamp	ADB Reference	Code Number
G9.5 axial, biplane filament, halogen lamp 230V-800W-3200K-300h	800W/G9.5/3200K	2990.40.500
G9.5 axial, biplane filament, halogen lamp 230V-600W-3200K-300h	600W/G9.5/3200K	2990.40.405

1.2.2 Hook clamp for WARP/M

Hook clamp	ADB Reference	
Hook clamp for WARP/M	A40	1092.10.600

2 hook clamps required for each WARP/M

1.2.3 Accessories

Accessory	ADB Reference	
Double gobo holder	SP/2GO/WARP	1000.40.100
Combined iris diaphragm & gobo holder	SP/OR-GO/WARP	1000.40.110

1.2.4 Color Changer

	ADB Reference	
Color changer with adapter plate and XLR 4 cable	CC/WARP	1050.40.405
Adapter plate with XLR 4 cable	APL-CC/WARP	1050.40.400

2 Description

2.1 Features

2.1.1 Standard features

The Motorised WARP is an automated zoom profile spotlight providing remote control of pan, tilt, zoom, focus and 4 framing shutters, each with 360° endless rotation.

2.1.2 Control and feedback

The Motorised WARP is controlled with USITT DMX512/1990, USITT DMX512-A[2] and ArtNet; it is RDM-ready and ACN-ready. A status report can be viewed on a web browser (see chapter 6).

2.1.3 Optional features

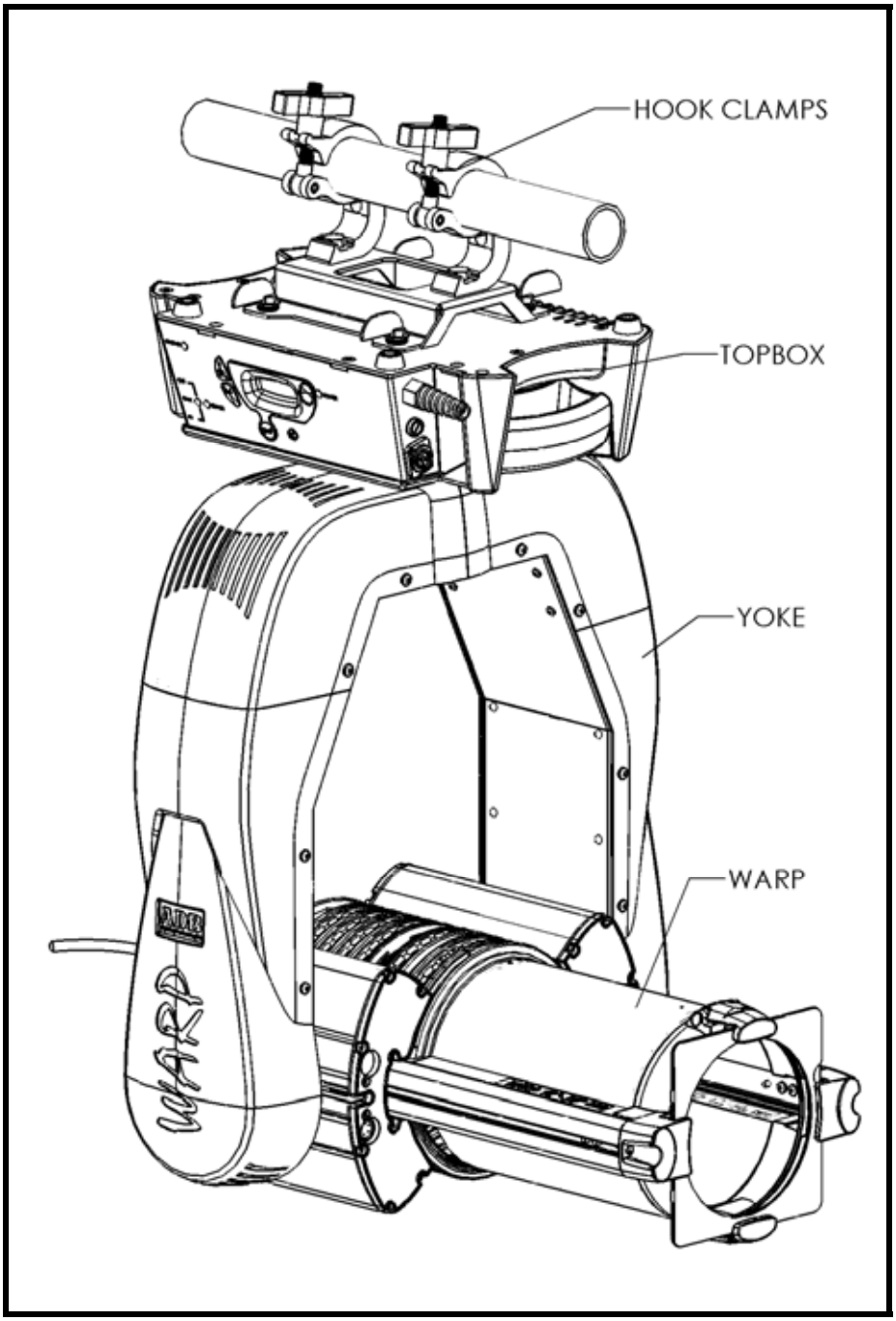
Iris and Gobo with 360° endless rotation; or two rotating gobos without iris.

[2] Available on release 2

2.2 Components

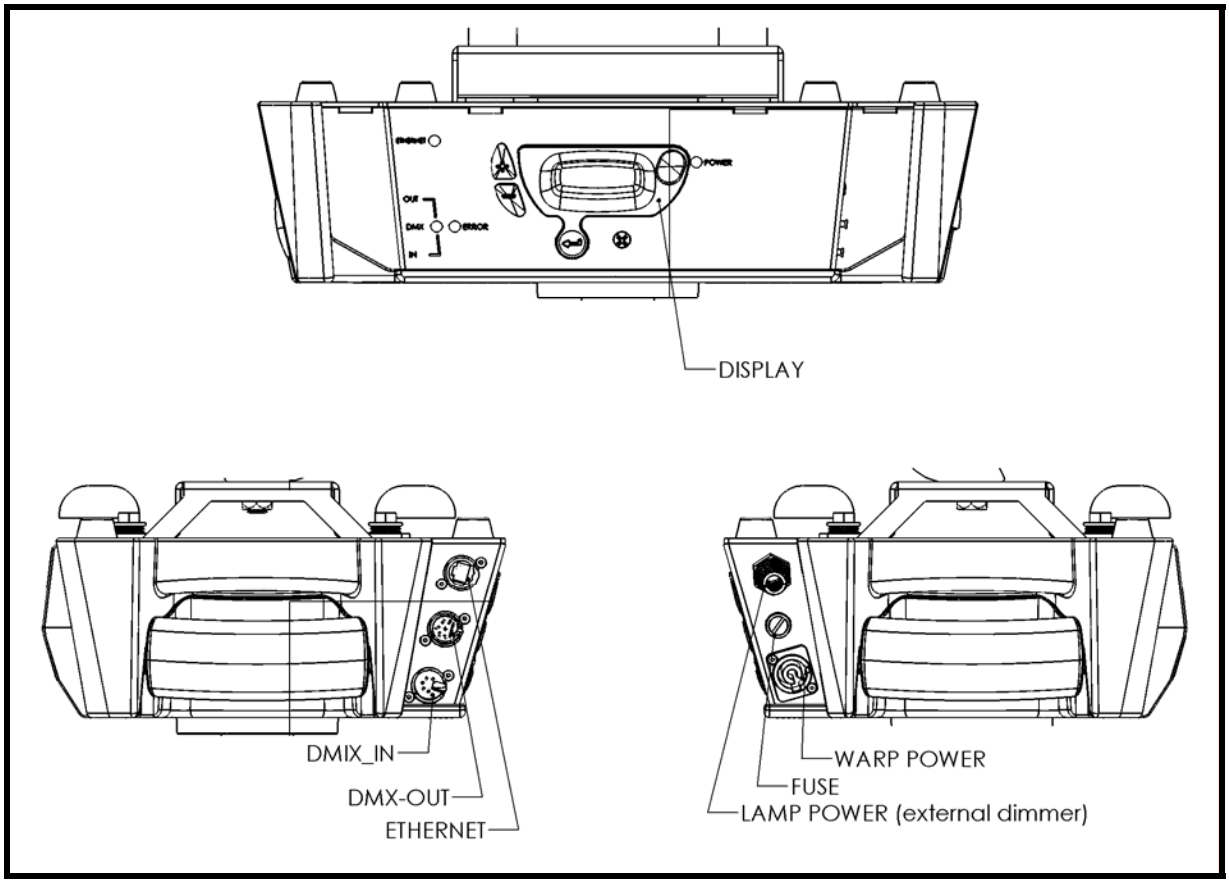
2.2.1 Overview

The following illustration shows the external components of Motorised WARP.



2.2.2 TOPBOX

The following illustration shows the external components on the Topbox

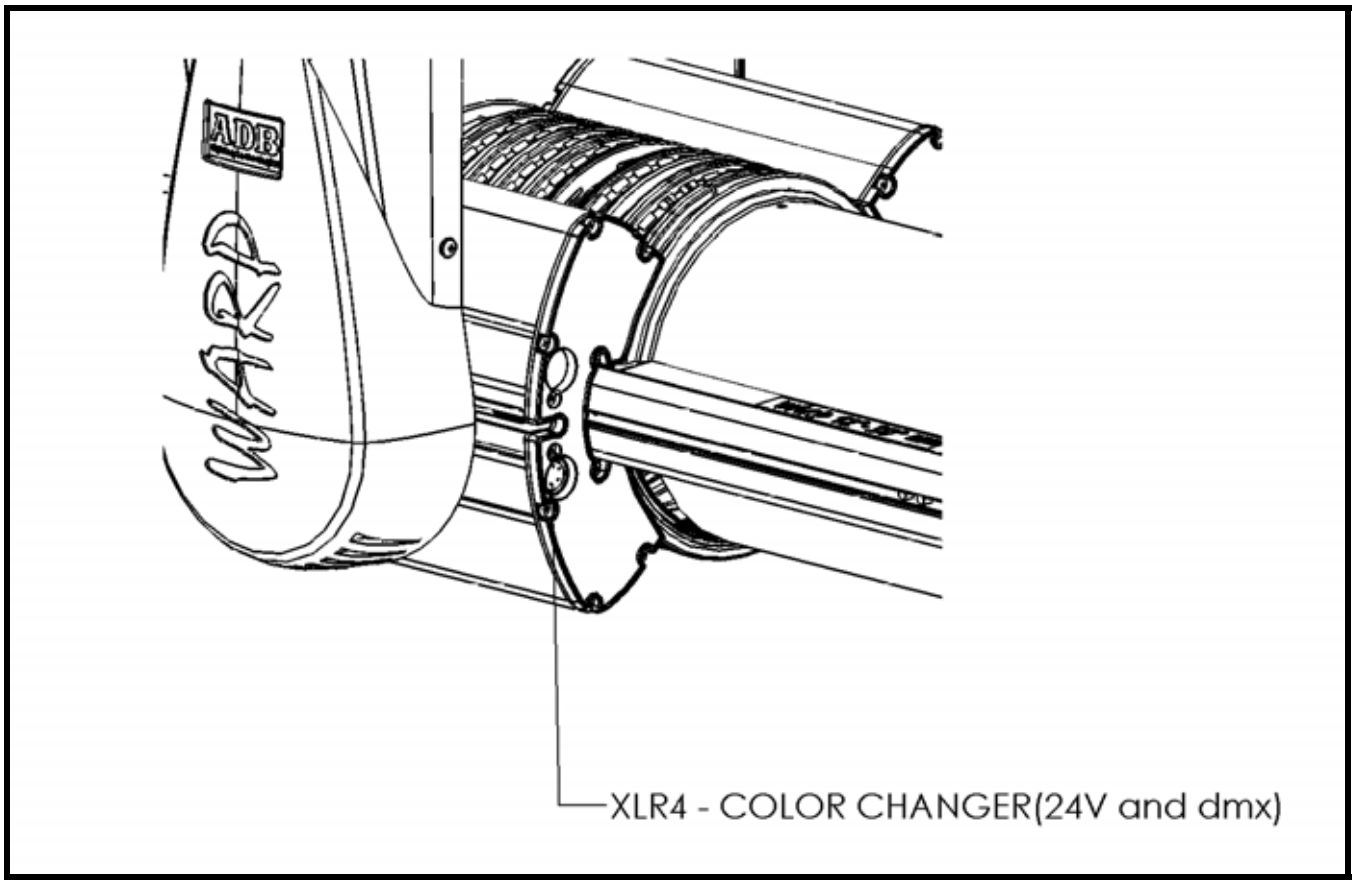


Connectors:

Ethernet	RJ45 Connector
DMX-OUT & THRU	XLR5 Male
DMX-IN	XLR5 Female
WARP power	Neutri PowerCon locking connector: 198 - 264 V AC 50/60 Hz (Optional: universal power supply 90 – 264 V 50/60 Hz)
Fuse for WARP power	6,3A 250V SPT 5x20 mm
Lamp power	From external dimmer

More detailed information is available in the programming and installation chapter.

2.2.3 XLR4 connector on the motor-house

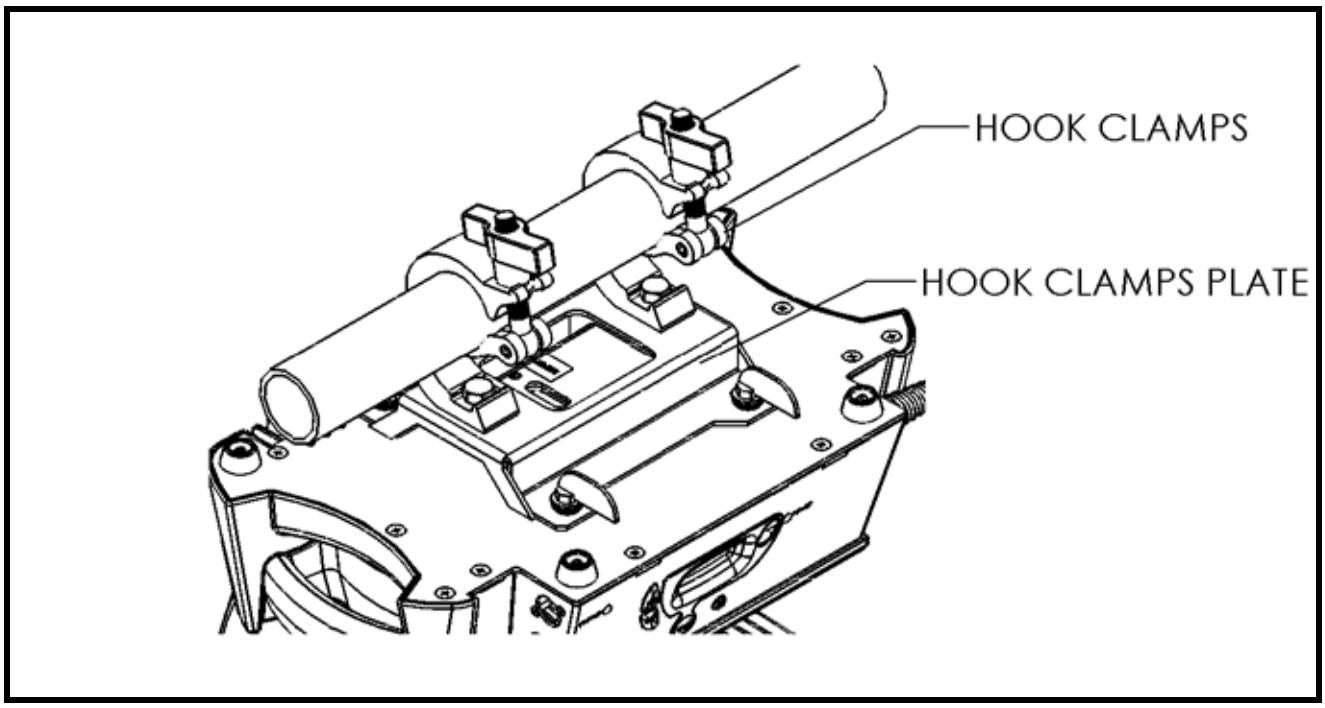


The XLR4-F connector on the motor-house provides DMX data and Power Supply (24Vdc/1A) for an additional device on the WARP. Typical example: a colour changer.

For more detailed information please refer to chapter 10 “Helpful tips – How to add a colour scroller”.

2.2.4 Accessories

2.2.4.1 Hook clamps



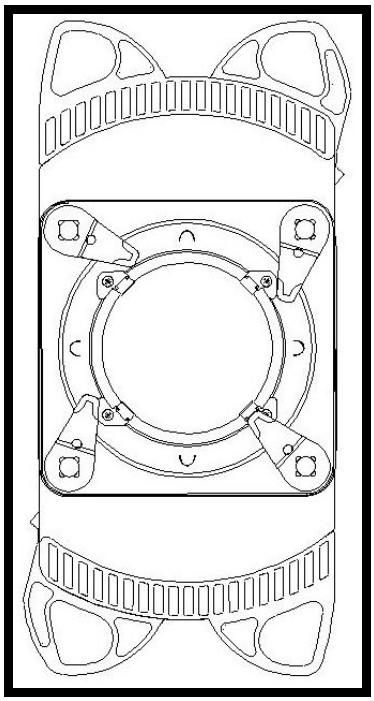
The hook clamps plate is fixed on the top box with 4 flame head fasteners (1/4 turn fasteners).
The hook clamp plate can be fixed as shown above drawing, or turned 90°.

When hanging[3], each WARP/M requires two hook clamps type A40.

[3] Hook clamp for WARP/M : ADB reference : A40

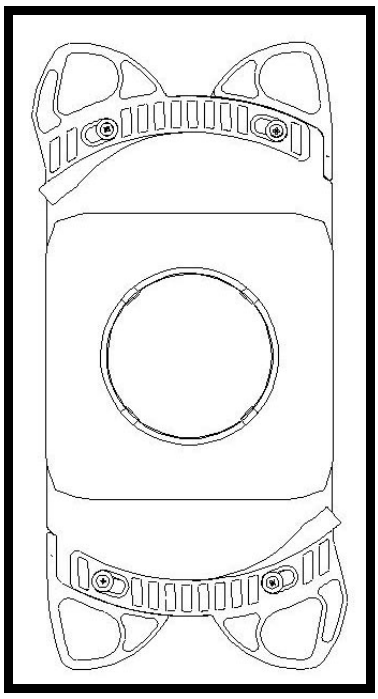
2.2.4.2 Double gobo holder[4]

Double gobo holder for gobo size B (85 mm)



2.2.4.3 Combined iris diaphragm & gobo holder[5]

Gobo holder for gobo size B (85 mm) and iris diaphragm.



[4] Optional accessory – ADB reference SP/2GO/WARP
[5] Optional accessory – ADB reference SP/OR-GO/WARP

3 Installation

This chapter contains instructions for the installation of the Motorised WARP. It covers connecting power and data, powering up the Motorised WARP for the first time and addressing it within your system.

3.1 Mounting

The Motorised WARP MUST be mounted in a vertical position, either hanging vertically on a tube or standing on the base of its Topbox.

3.2 Power and Data Cabling Requirements

3.2.1 Mains power for the control electronics

The Motorised WARP is available in 2 different power versions: a standard 230 V version and a universal version (option).

The **standard version** requires standard 230 V power for all internal electronics and motors; the working voltage range is 198-264 V, 50/60 Hz.

The **universal version** requires standard AC power to power all internal electronics and motors; the working voltage range is 90-264 V, 50/60 Hz.

Both versions are equipped with a 3-pole Neutrik PowerCon locking connector, and the mating Neutrik PowerCon cable receptacle is included. However, you will need to purchase or construct a supply cable appropriate for your application.

3.2.2 Lamp power

The power for the lamp of the Motorised WARP is supplied by the output of an external dimmer (not included).

3.2.3 DMX data and termination when WARP receives DMX

The Motorised WARP is equipped with a pair of XLR5 connectors for DATA IN and DATA OUT/THRU. DMX data from an external DMX source should be connected to the DATA IN. Connectors are XLR5, as prescribed in the DMX512 standard.

A male XLR5 termination plug is required on the OUT/THRU of the last Motorised WARP (or the "far end of the DMX line").

- XLR5-M plug with two 1/4W 5% 120 ohm resistors (one per data pair)

3.2.4 DMX data and termination when WARP is transmitting DMX

If WARP is used as the source of DMX i.e. as an ArtDMX-to-DMX converter, then DMX devices can be connected to the DMX OUT/THRU connector as well as the DMX IN connector. In other Words: WARP does not have to be at the start of the DMX line; it can also be 'somewhere in the middle'.
But in that case BOTH "far ends of the DMX line" MUST be terminated. Each termination MUST be on both data pairs.
Note: as per the rules of DMX512 and EIA/RS-485: max. 32 DMX receivers per WARP.

3.2.5 Ethernet

The Motorised WARP is equipped with one RJ45 connector for Ethernet.

3.3 Installation Procedures

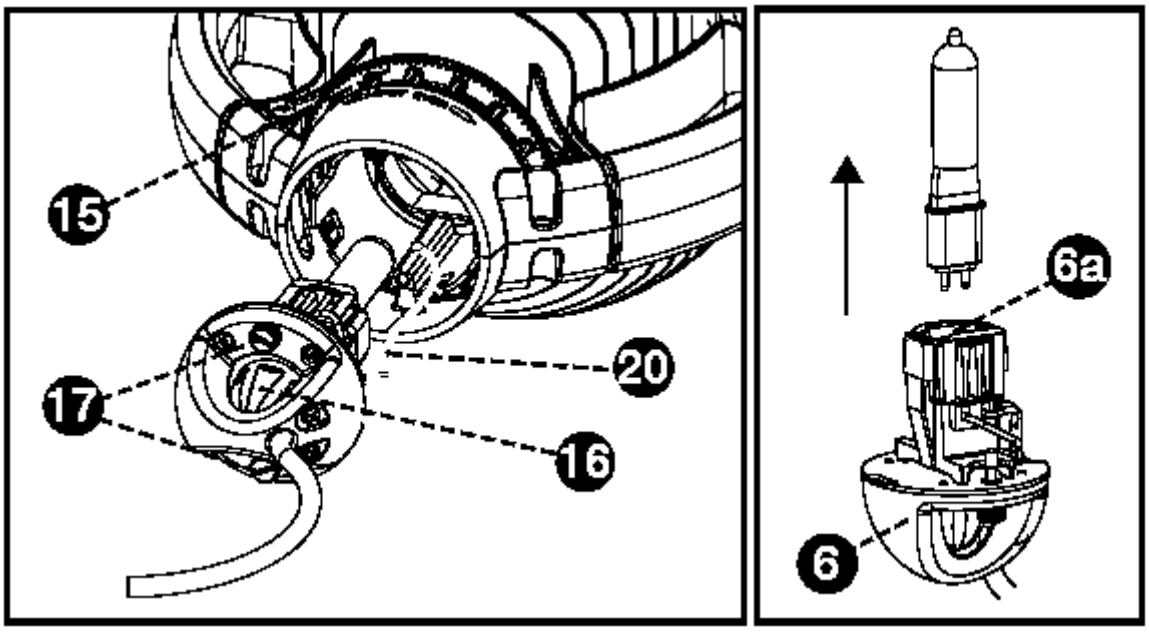
3.3.1 Inserting (replacing) the lamp

It is necessary to insert the lamp[6] before use. Ensure that power is removed from the Motorised WARP when installing or replacing the lamp. The lamp housing, lamp assembly and the lamp may be very hot when the lamp has been turned on. Allow the parts to cool off before replacing the lamp.

CAUTION
The lamp housing, the lamp assembly and the lamp may be very hot!

Disconnect the power supply cable before opening the housing. Use an 8 mm screwdriver to remove the two mounting screws (17) of the lampholder assembly. Pull out the lamp holder (6) out of the housing. Follow the manufacturer's instructions when handling the halogen lamp. Insert the lamp into the socket (6a) in the heatsink.

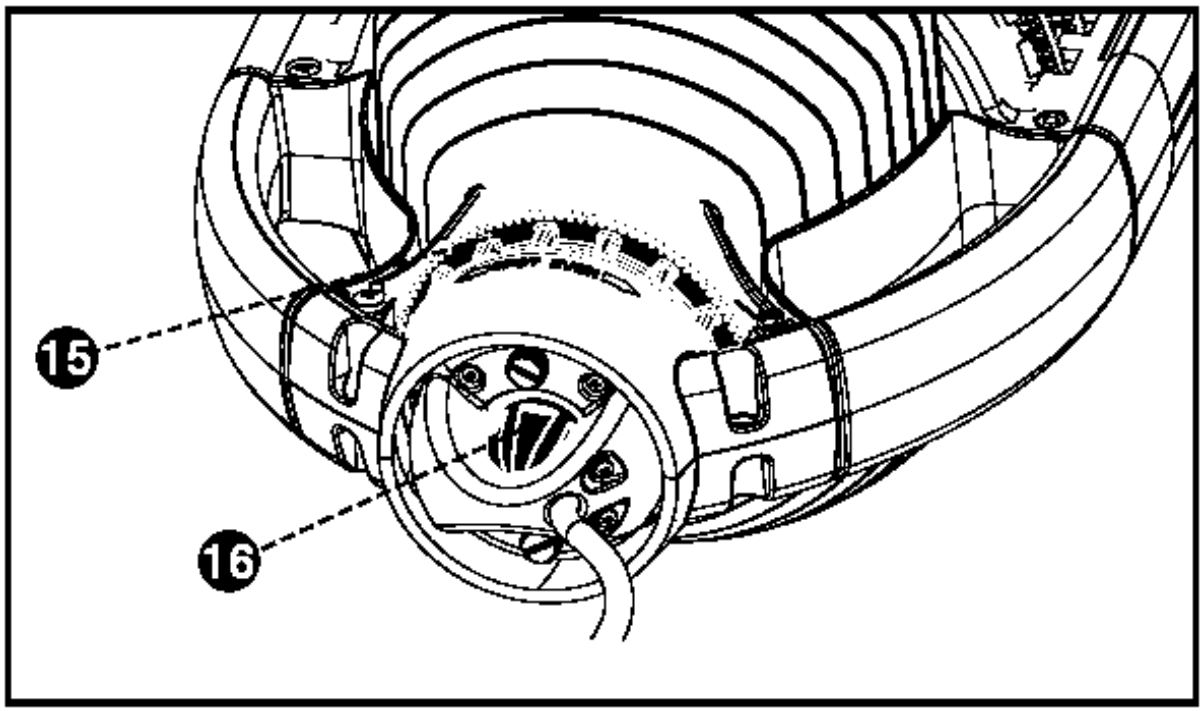
Make sure that the grounding wire (20) has not been damaged. Re-insert the assembly (6) into the fixture and tighten the two mounting screws (17).

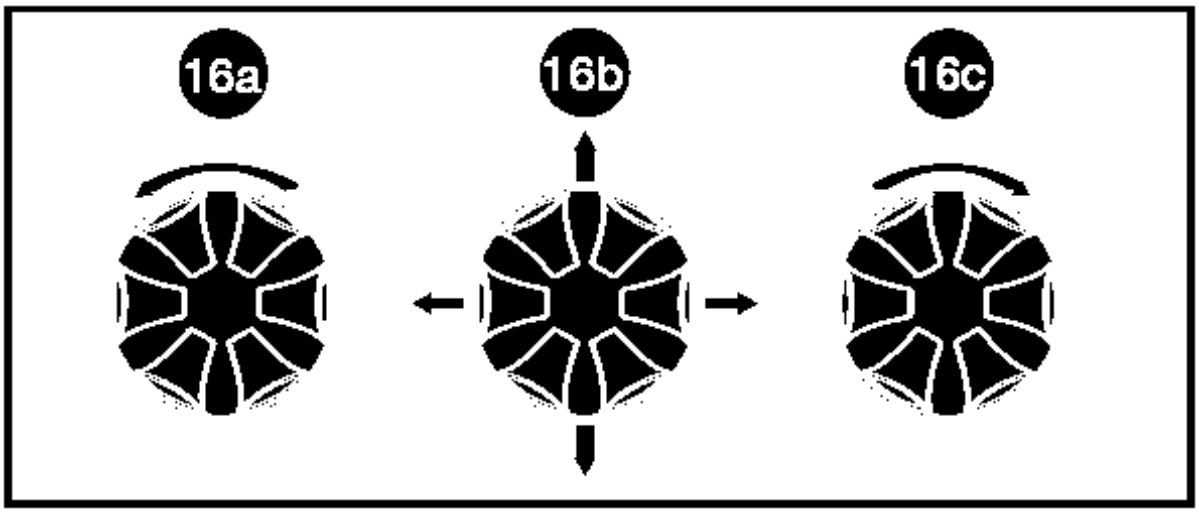


[6] Lamp type: G9.5, 800W, 230V, 3200°K axial biplane filament halogen lamp.

3.3.2 Alignment of the lamp

After replacing the lamp it may be necessary to make adjustments.
To adjust the beam, turn the Spot-Even ring (15) towards 'SPOT'. Adjust the position of the bulb with the X-Y knob (16). Unlock the knob by turning it to the left (16a) and correct the position by moving the knob in the desired direction (16b). Lock the knob again by turning it to the right (16c). Even the beam by turning the Spot-Even ring (15) back to the EVEN position.





3.3.3 Suggested procedure to align the lamp

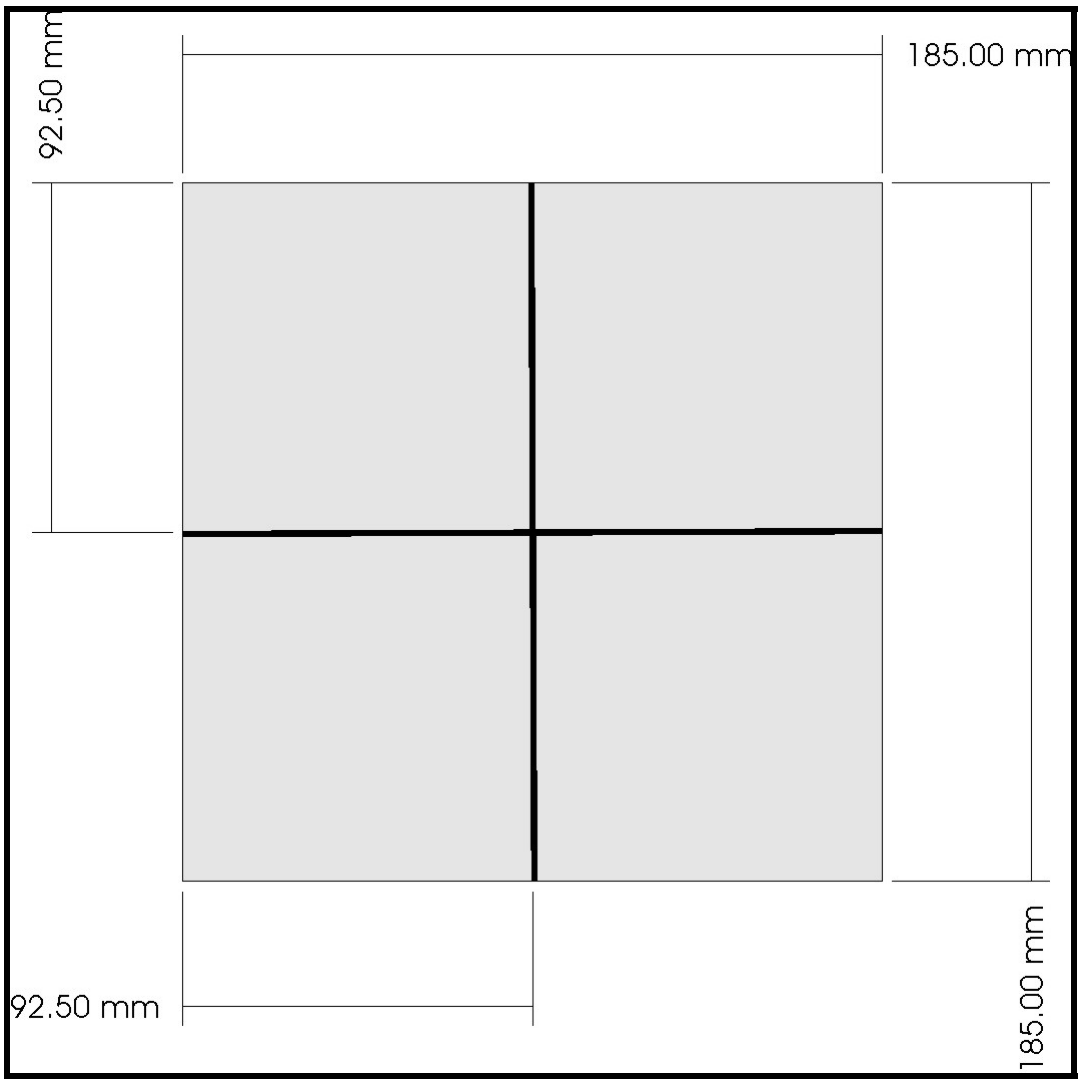
It is not always simple to align the lamp if you do not dispose of a white screen. This procedure to align the lamp is accurate and simple.

What you need:

1. WARP Metal filter frame (PFM/185 (185 x 185 mm)
2. White diffusion filter (Example Lee 216 / Rosco 116)
3. DMX console or DMX generator/tester

Preparation

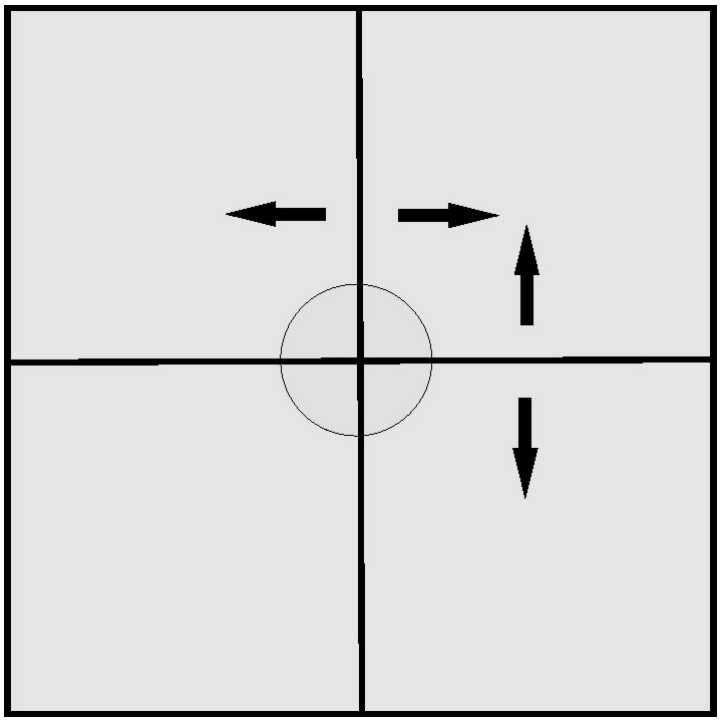
1. Make a cross in the middle of the white diffusion filter with a marker. See drawing.



2. Insert the filter in the filter frame and insert into the WARP
3. Set level of external dimmer to 33%. (In WARP personality: lamp @ 33%)
4. Set DMX values for Focus and Zoom to 0 (zero)
5. Set Spot-Even ring in the middle

Alignment

The lamp shape is visible on the filter. Align the lamp to the middle of the cross. See drawing.



3.4 Pan & Tilt – 'Reset' versus 'Absolute Values' [7]

When powered up, motorised fixtures go through a 'self-discovery routine' which can be quite noisy at times – especially during the reset of Pan & Tilt.

Motorised WARP uses a different approach, thanks to the absolute encoders for Pan & Tilt. At Power Up, WARP can work either with *Absolute Values* or with *Reset* function.

'Absolute Value' mode: after a Power Up the unit will not reset Pan & Tilt

'Reset' mode: after a Power Up the unit do a reset of Pan & Tilt.

Absolute Value mode is the default mode. Changing to Reset mode is done by changing the settings of internal jumpers, or by using the webpage (see chapter Webpage).

The necessary calibration procedure for Absolute Values was done in the factory. In case of major changes to the Motorised WARP it may be necessary to re-calibrate the WARP on site. This comprehensive calibration takes about 20 min.

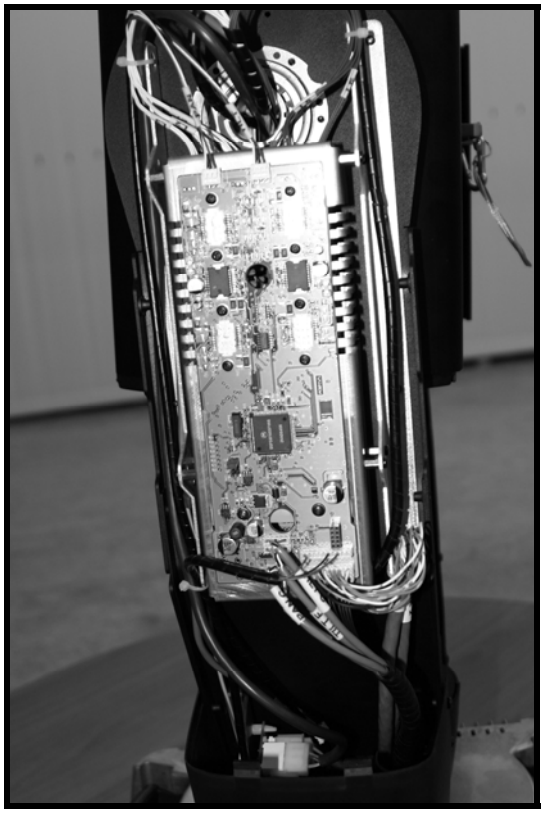
Note: How to stop a calibration
To interrupt a calibration (e.g. because it was started unnecessarily): unplug the WARP. The old calibration data are valid kept until the new calibration is finalised.

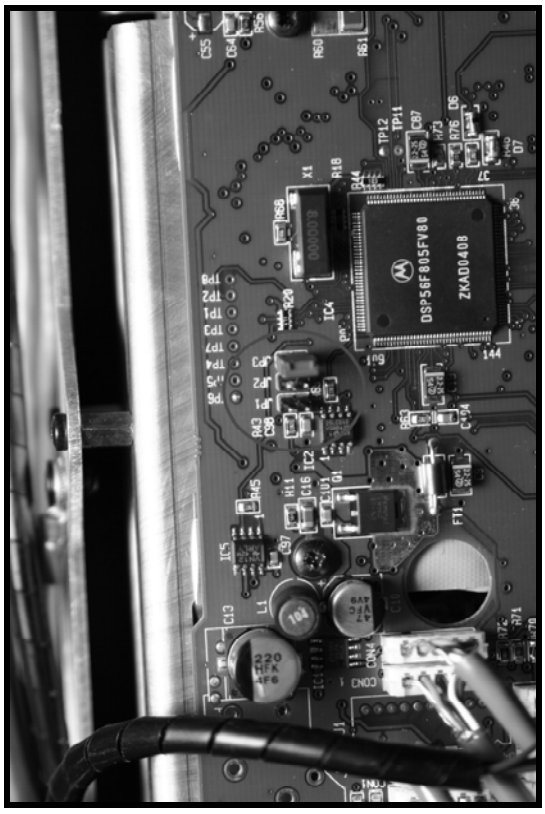
[7] This is purely an informative chapter. Only service technicians level 2 are allowed to open the covers. Detailed information is available in the service manual.

3.4.1 Internal jumpers

The jumpers are on the motor driver boards under the left and right yoke cover. Under the covers you will find 3 PCB's (Printed Circuit Boards), one board on one side and two stacked boards on the other side.

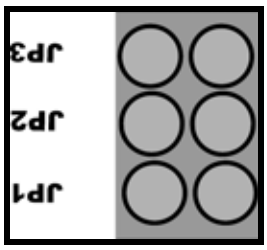
There are 2 identical Ring driver boards (each with 6 motor driver chips) and one Pan&Tilt board (with 2 motor driver chips). All boards include configuration jumpers.





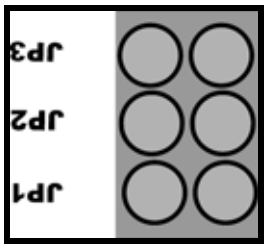
3.4.2 Jumper setting

Jumpers on the Pan&Tilt board (board with two motor driver chips)



JP1 => Not used.
JP2 => Only for internal ADB use. Locks the software in the memory of the board. (Warning: if the jumper is placed, it is not possible to upload new software.)
JP3 => Jumper absent = 'Absolute values' mode (factory default); jumper present = 'Reset' mode.

Jumpers on the Ring boards (board with six motor driver chips)



JP1 => Not used.
JP2 => Only for internal ADB use. Locks the software in the memory of the board. (Warning: if the jumper is placed, it is not possible to upload new software.)
JP3 => Zoom range: Jumper absent = 12°-30° ; Jumper present = 22°-50°

3.5 Balancing

Motorised WARP offers superb positioning – provided it has been correctly balanced. An unbalanced WARP will not operate properly.

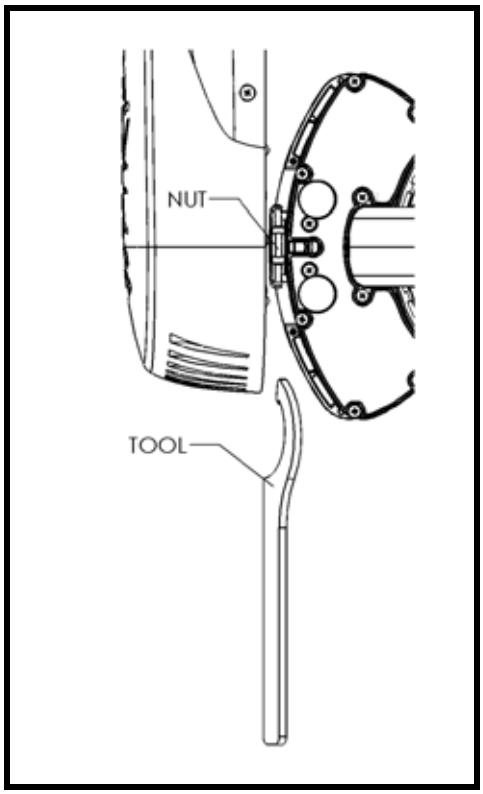
3.5.1 Factory-balancing of the WARP

Prior to shipping, WARP has been balanced in the factory for 'Standing'.

If you wish to add a colour changer then you'll have to re-balance to compensate for the extra weight. Changing from 'hanging use' to 'standing use' (or vice-versa) also requires a slight adjustment (see 3.5.2.1).

3.5.2 On-site balancing of a WARP

Each WARP is shipped with the special tool required to reposition the luminaire in the yoke. The yoke can be positioned over the entire length of the WARP, making it possible to balance the spotlight in any position.



Loose the nuts on both sides, using the special tool.
Slide the WARP in the yoke guide (3) until the balancing point is found.
Retighten the nuts in the desired position.

3.5.2.1 Advice for balancing

Balancing the fixture for 'hanging'
Use the control rings for focus and zoom to shift the lenses towards the accessory slots. Then move the luminaire in the yoke to find the equilibrium point.

Balancing the fixture for 'standing'
Use the control rings for focus and zoom to shift the lenses towards the front, away from the accessory slots. Then move the luminaire in the yoke to find the equilibrium point.

3.6 Learn Boundaries for Pan & Tilt[8]

When WARP is positioned in a niche, or between pieces of scenery, you may wish to restrict its range of pan & tilt movements.
Learn Boundaries is an automatic tool for detection of the physical boundaries.

WARP will remember the 'allowed window of movement' and will then shift (offset) the DMX values so that
'Pan DMX value = zero' matches one of the two Pan boundaries.
'Tilt DMX value = zero' matches one of the two Tilt boundaries.

DMX value 0 (zero) for Pan equals the Pan position of "first obstacle encountered during Learn Boundaries".
DMX value 0 (zero) for Tilt equals the Tilt position of "first obstacle encountered during Learn Boundaries".

If you increase a DMX value then the luminaire will move exactly as when no boundaries are set.

Increasing the DMX values will move WARP towards the other boundary, which will be reached for some unknown DMX value. Any DMX value above this upper limit will be limited, so that WARP will not touch the obstacle.

Note: The limits detected during Learn Boundaries are applied until you perform a new Learn Boundaries.

3.7 Configuration – presence of iris/gobo holder

Configuration covers the presence (or not) of an iris+gobo or gobo+gobo accessory.
The configuration settings MUST be correct or the Motorised WARP will not operate properly. (Menu structure) The configuration is saved in the Motorised WARP.

Inserting a gobo or an Iris is done by configuring the slot. The slot can be configured by using the 'menu functions' (see chapter Menu structure) or by using the 'webpage' (see chapter webpage). It is important to configure the slot before inserting the accessory into the WARP.

[8] Under Development.

3.8 Powering up

When powering up a Motorised WARP **the Motorised WARP must be balanced**
See 3.5 Balancing.

WARNING
The ring for an iris can only rotate 90 degrees. So WARP must be made aware of the presence of an iris. This is done in the Configuration Menu.

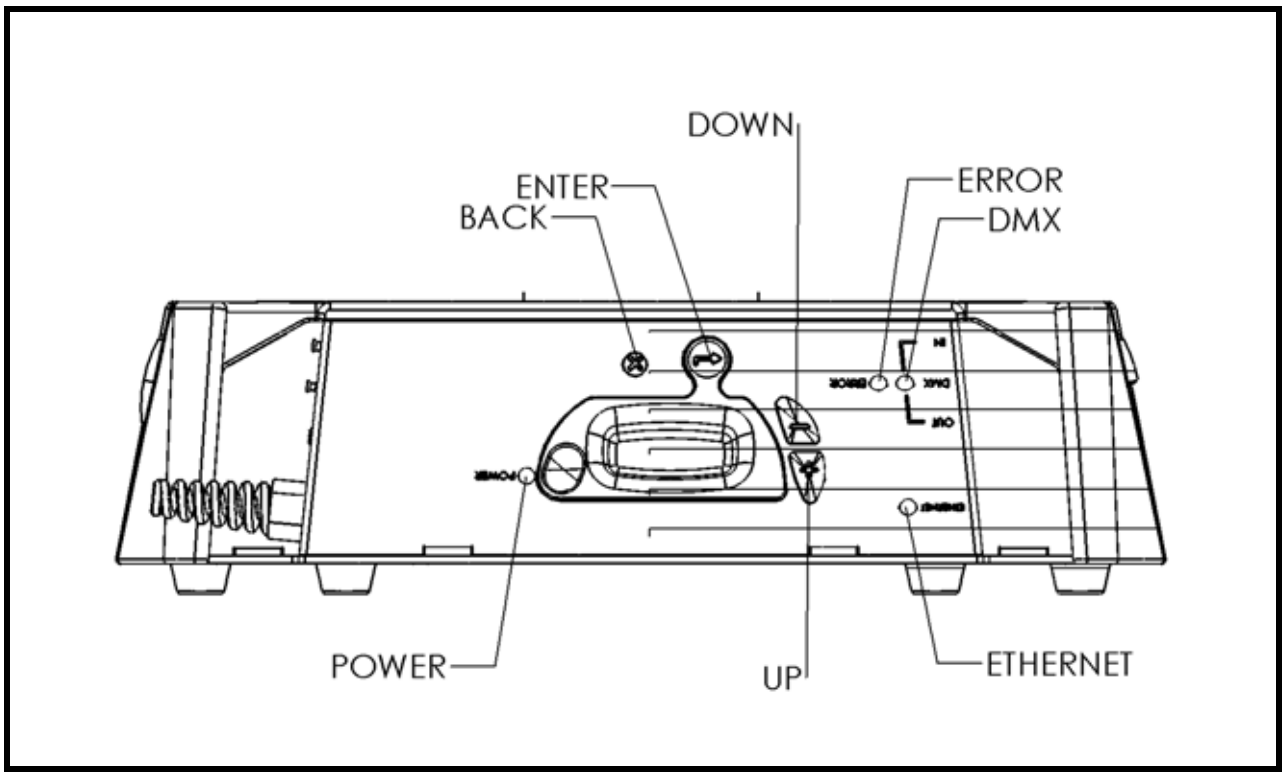
FACTORY SETTING: NO IRIS
See chapter Menus.

WARP leaves the factory configured for 'no iris present'. To insert an iris holder: refer to chapter 10.1, 'How to insert or remove an accessory'.

WARNING
Improper insertion and/or Configuration may damage the WARP and/or the iris.

4 Menu structure

4.1 Push-buttons and LEDs



4.1.1 LEDs

LED name →	Power	Error	DMX	Ethernet
LED status ↓				
On	Powered up[9]	Communication error[10]	Receiving DMX and/or ArtDMX	Receiving Ethernet and/or ArtDMX
Fast flash (4 per s)			Using DMX or transmitting DMX[11]	Using ArtDMX

4.1.2 Push-buttons

Up: page up
Down: page down
Enter: Selection; one level up
Back: One level back

[9] Led on after booting of the WARP's EPU. (+- 20s)
[10] Occasional flashes will occur during booting
[11] Using WARP as Ethernet to DMX node

4.2 Menu functions – local display

Menu			Default value	Possible values	
Lev 1	Lev 2	Lev 3			
ADDR			1	1 – 512	Set DMX (or ArtDMX) address
ANET					
	ENAB		OFF	ON OFF	ON = enable ArtNet ; OFF = disable ArtNet
	SUBN		0	0 – 16	Set ArtNet Subnet
	UNIV		0	0 – 16	Set ArtNet Universe
	IP M		2.xxx.xxx.xxx	2.xxx.xxx.xxx 10.xxx.xxx.xxx DHCP	Select IP address 2: static, starting with a 2 10: static, starting with a10 DHCP: dynamic In case Static is selected DHCP is disabled
	NAME		ADB WARP		Show unit name
	IPAD				Show IP address (No value in case of DHCP selection)
PATI					
	SWAP		OFF	ON - OFF	Swap Pan & Tilt (Swapped yes/no)
	PINV		OFF	ON - OFF	Invert Pan (Inverted yes/no)
	TINV		OFF	ON - OFF	Invert Tilt (Inverted yes/no)
SPED					
			FAST	FAST QIET STEL	Speed of the rings (No influence on Pan&Tilt) FAST = Maximum speed QUIET = Half normal speed STEALTH = Only one motor at a time
SLOT					
	FRNT		NONE	NONE IRIS GOBO	Front accessory slot (Side of the Lens) No accessory fitted Iris fitted in front slot Gobo fitted in front slot As long as no DMX is present (or DMX Value = 0): selecting an accessory will automatically rotate gobo/iris rings to the insert position. *See also CHNG* **Calibration of accessory: only while no accessory is inserted!**
	REAR		NONE	NONE IRIS GOBO	Rear accessory slot (Side of the lamp) No accessory fitted Iris fitted in rear slot Gobo fitted in rear slot

					As long as no DMX is present (or DMX Value = 0): selecting an accessory will automatically rotate gobo/iris rings to the insert position. *See also CHNG* **Calibration of accessory: only while no accessory is inserted!**
	GB M		IDX	IDX ENDL	Gobo Mode Indexed rotating Indexed rotating and endless rotating See DMX operation for details
	CHNG		OFF	ON - OFF	ON: sets the WARP to the gobo/iris insert position and sets the WARP in PARK position OFF or "back" will bring the WARP online
DISP					
	KPON		OFF	ON OFF	ON: local display turns Off after xx s OFF: local display is On all the time
	TIMO			xx SEC	Time out for local display, in seconds
	INV		OFF	ON – OFF	Invert display ON for hanging OFF for standing
	BRT			0 – 15	Brightness level value
MAN					
	REST				Calibration of axes and wheels To access Reset functions: press ENTER for 3 seconds Pan / Tilt: WARP is using absolute positioning technology; a calibration will measure all possible positions Pan and Tilt. The Calibration takes up to 20 minutes. A calibration of a ring will detect the physical limits of the wheel.
		ALL		Enter	Calibration of all
		ACC1		Enter	Calibration of accessory 1 (rear front) **Calibration of accessory: only while no accessory is inserted!**
		ACC2		Enter	Calibration of accessory 2 (rear rear) **Calibration of accessory: only while no accessory is inserted!**
		SHUT		Enter	Calibration of All shutters
		LENS		Enter	Calibration of zoom and focus
		PATI		Enter	Calibration of pan and tilt
	MOVE				Local control to move axes and rings (only works while DMX is absent)

					Syntax: select axis to move; press enter to confirm; move with + and -; the value is displayed; X (back) = back to the previous value Enter = stay on the new value The new value will remain until a new DMX value is received.
		ACC1	0 – 255	Enter to Select ; + and – to Move	Local move of Accessory 1
		ACC2	0 – 255	Enter to Select ; + and – to Move	Local move of Accessory 2
		SR 1	0 – 255	Enter to Select ; + and – to Move	Local rotation of shutter 1
		SR 2	0 – 255	Enter to Select ; + and – to Move	Local rotation of shutter 2
		SR 3	0 – 255	Enter to Select ; + and – to Move	Local rotation of shutter 3
		SR 4	0 – 255	Enter to Select ; + and – to Move	Local rotation of shutter 4
		SI 1	0 – 255	Enter to Select ; + and – to Move	Local in/out move of shutter 1
		SI 2	0 – 255	Enter to Select ; + and – to Move	Local in/out move of shutter 2
		SI 3	0 – 255	Enter to Select ; + and – to Move	Local in/out move of shutter 3
		SI 4	0 – 255	Enter to Select ; + and – to Move	Local in/out move of shutter 4
		ZOOM	0 – 255	Enter to Select ; + and – to Move	Local move of zoom
		FOC	0 – 255	Enter to Select ; + and – to Move	Local move of focus
		PAN	0 – 255	Enter to Select ; + and – to Move	Local move of pan
		TLT	0 – 255	Enter to Select ; + and – to Move	Local move of tilt
	LAMP		AUTO	 AUTO OFF ON	Internal lamp relay Note: automatically goes to AUTO after a Power Up. AUTO: Lamp relay On when not in reset or calibration mode. (Also depends on lamp configuration – see webpage) and control signal (DMX or ArtDMX)– OFF: Lamp relay always off until next Power Up ON: Lamp relay always on until next Power Up
	AUTO		ON	 ON OFF	What happens when power is restored ON: WARP automatically comes online, does RESET and Lamp on

					OFF: After shutdown or power failure WARP will be in Park position. To bring WARP online use Online function in the control channel.
TEST					Test sequence
	STOP				
	RUN				
INFO					
	VERS				Show software version (use up/down arrows to scroll)
	IPAD				Show DHCP assigned IP address (use up/down arrows to scroll)
	STAL			20	Stall function If the WARP is consistently being hindered by an immovable object, the WARP will eventually go in Stall: WARP freezes and lamp relay goes Off. Stall time is the observation time before WARP goes in Stall. When in Stall: “STAL” message on the local display. The Stall time is a value between 0 and 60 s. 0 s disables the Stall function. To Recover from Stall: online function or Press Enter on the top box

4.3 DMX addressing

4.3.1 DMX address

The DMX starting address is entered using the local Menu and Display, or on the webpage.

4.3.2 Priority rule between DMX and ArtDMX

WARP can be controlled via an external DMX signal (received via the XLR5 connector) and also via ArtDMX (received via Ethernet).

Priority and automatic switch-over

Default priority: DMX from an external source has priority over ArtDMX.

So if the external DMX signal fails, ArtDMX will take over automatically (if available).

Note: this Priority can be inverted via the webpage (see tab ArtNet).

5 Operation

5.1 DMX Operation

5.1.1 Channel Mapping[12]

The first column of these charts are laid out according to a fixture definition (personality) for in ISIS® ADB's lighting control software.
The ISIS® column is the offset with regard to base address.
The Start=1 column shows the addresses for Starting Address = 1.

ISIS® Offset 0	Start=1 Offset 1		Default Open Value
0	1	Control	0
1	2	Pan	32767
2	3	Pan fine	
3	4	Tilt	32767
4	5	Tilt fine	
5	6	Zoom	0
6	7	Focus	0
7	8	Shutter A Rot/Index Coarse	32767
8	9	Shutter A Rot/Index Fine	
9	10	Shutter A In/Out	0
10	11	Shutter B Rot/Index Coarse	32767
11	12	Shutter B Rot/Index Fine	
12	13	Shutter B In/Out	0
13	14	Shutter C Rot/Index Coarse	32767
14	15	Shutter C Rot/Index Fine	
15	16	Shutter C In/Out	0
16	17	Shutter D Rot/Index Coarse	32767
17	18	Shutter D Rot/Index Fine	
18	19	Shutter D In/Out	0
19	20	Shutters all rotation offset Coarse	32767
20	21	Shutters all rotation offset Fine	
21	22	Gobo 1 rotation – coarse	32767
22	23	Gobo 1 rotation – fine	
23	24	Iris – coarse, or coarse rotation of Gobo 2	0
24	25	Iris – fine, or fine rotation of Gobo 2	0

[12] Personalities for several controls are available on the ADB TTV website.

25	26	External dimmer (optional)	Dummy
26	27	External DMX output e.g. for scroller (ch1)	
27	28	External DMX output e.g. for scroller (ch2)	
28	29	External DMX output e.g. for scroller (ch3)	
29	30	External DMX output e.g. for scroller (ch4)	
30	31	External DMX output e.g. for scroller (ch5)	
31	32	External DMX output e.g. for scroller (ch6)	
32	33	External DMX output e.g. for scroller (ch7)	
33	34	External DMX output e.g. for scroller (ch8)	

5.1.2 Rotate 720°

Each Shutter Rot/Index and the Shutter offset channel can freely rotate 720°. Starting for the open value; one turn right and one turn left.

The framing shutters of a Motorised WARP can freely rotate 720 °.

The Motorised WARP defines a “zero value position of the framing shutters”. This sets the four framing shutters at right angles to each other.
When the shutter rotation position is set to “Zero value position” and you move all shutters in, you will get a raectangular/square shape.

5.1.3 How to identify a shutter shutter on your console

An operator can easily identify a shutter by moving one shutter and then using an ‘undo’ function to move it back to its original position. The ISIS® function for this is ‘return’. This function is available on most lighting consoles.

5.2 DMX Mapping – the control channel

5.2.1 Control Channel

The Control channel allows special actions such as reset, lamp on/off and partial recalibration. To start such a special action the sequence is Fire – Choose – Arm – Fire
DMX values for the Control Channel

- Fire (DMX value 00 – 20)
- Choose (Set the value of the Control channel to the value for the required action, duration 1 s minimum and 10 s maximum)
- Arm (DMX value 241 – 255), duration 1 s minimum and 10 s maximum
- Fire (DMX value 00 – 20) (= start the action)

Value range	Command	Explanation
00 to 20	Fire	Fires the previously selected command
21 to 25	Park	Freezes the luminarie in the present state
26 to 30	Online	Recover from park, home and Accessories insertion mode. Recover from accessories insertion mode will always force a reset on gobo / iris wheels
31 to 35	Not used	
36 to 40	Stealth Mode	Mode to ensure silent operation at all times (only one wheel moves at a time)
41 to 45	Quiet Mode	Mode to ensure a more silent operation (reduced speed)
46 to 50	Fast mode	Max speed on all functions, “ no limits “
51 to 55	Reset all	Reset of all wheels
56 to 60	Reset all Shutters	
61 to 65	Reset Gobo 1	
66 to 70	Gobo 2/iris	
71 to 75	Reset Zoom	
76 to 80	Reset Focus	
81 to 85	Reset Pan	
86 to 90	Reset Tilt	
91 to 95	Not Used	
96 to 100	Calibration lens	Calibration of Zoom, Focus
101 to 105	Calibration of Shutters	
106 to 110	Calibration of Pan/Tilt	
111 to 115	Calibration of Iris/Gobo	
116 to 120	Not Used	
121 to 125	Pan invert On	
126 to 130	Pan invert Off	
131 to 135	Tilt invert On	
136 to 140	Tilt invert Off	
141 to 145	Pan/Tilt swap On	
146 to 150	Pan/Tilt swap Off	
151 to 155	Display On	
156 to 160	Display Off	
161 to 165	Factory default setting	For future releases
166 to 170	User setting 1	For future releases

171 to 175	User setting 2	For future releases
176 to 180	User setting 3	For future releases
181 to 185	Not used	
186 to 190	DMX address setting	For future releases
191 to 195	Accessory change	Going to initial position and freeze wheels Needs Online function to restart
196 to 200	Gobo Mode indexed	
201 to 205	Gobo Mode indexed and Endless rotation	00000 to 39167: Index 0 to 430 degree 39168 to 51455: Clockwise fast to slow rotation 51456 to 53247: Stopped 53248 to 65535: Counter Clockwise slow to fast rotation
206 to 210	Not Used	
211 to 215	Not Used	
216 to 220	Not Used	
221 to 225	Not Used	
226 to 230	Not Used	
231 to 235	Not Used	
236 to 240	Not Used	
241 to 255	Arm	"Arms" Standby for fire, the command previous selected

Note: Difference between Reset and Calibration

Calibration

Pan & Tilt

WARP **is using absolute positioning technology;**

a calibration will measure all possible positions Pan and Tilt can have. The Calibration takes up to 20 minutes.

Rings

A calibration will detect the physical limits of the wheel.(Only for lenses)

Only necessary for maintenance purposes.

IRIS/GOBO

Calibration is forbidden if the accessory is inserted

Reset

Reset will verify the optical sensors for the rings. A reset of the wheels is included in each start up.

6 Web page

WARP/M provides two user-interfaces:

- The local display with buttons
- A webpage on any PC browser

Before going on, it is necessary to set the PC's network card on specific IP address and subnet setting. Some knowledge of IT is necessary.

Addendum 1 describes how to set up a network card with Windows XP.

Whenever you want to configure your Motorised WARP, or have feedback about its current status, you can access the WARP by opening the web-browser and typing in the IP Address of the WARP.

A tool to 'Discover all the WARP on my Ethernet network' is described in the paragraph WARP Scanner.

6.1 WARP's IP address

The WARP can either work with
- or a fixed IP address format 2.x.x.x
- or a fixed IP address format 10.x.x.x
- or a DHCP assigned dynamic IP address.

The fixed IP address is an ArtNet IP address, i.e. 2.x.x.x or 10.x.x.x. The three bytes x.x.x are created on the basis of the serial number of the WARP.
(If necessary it is possible to change the fixed IP address.)

Working with DHCP-assigned IP addresses requires a DHCP server and knowledge of DHCP.

Note: each Motorised WARP also responds to IP address 192.168.0.1. This address can be used to configure the unit and upload software – provided the PC is connected to a single WARP.

6.2 Home page

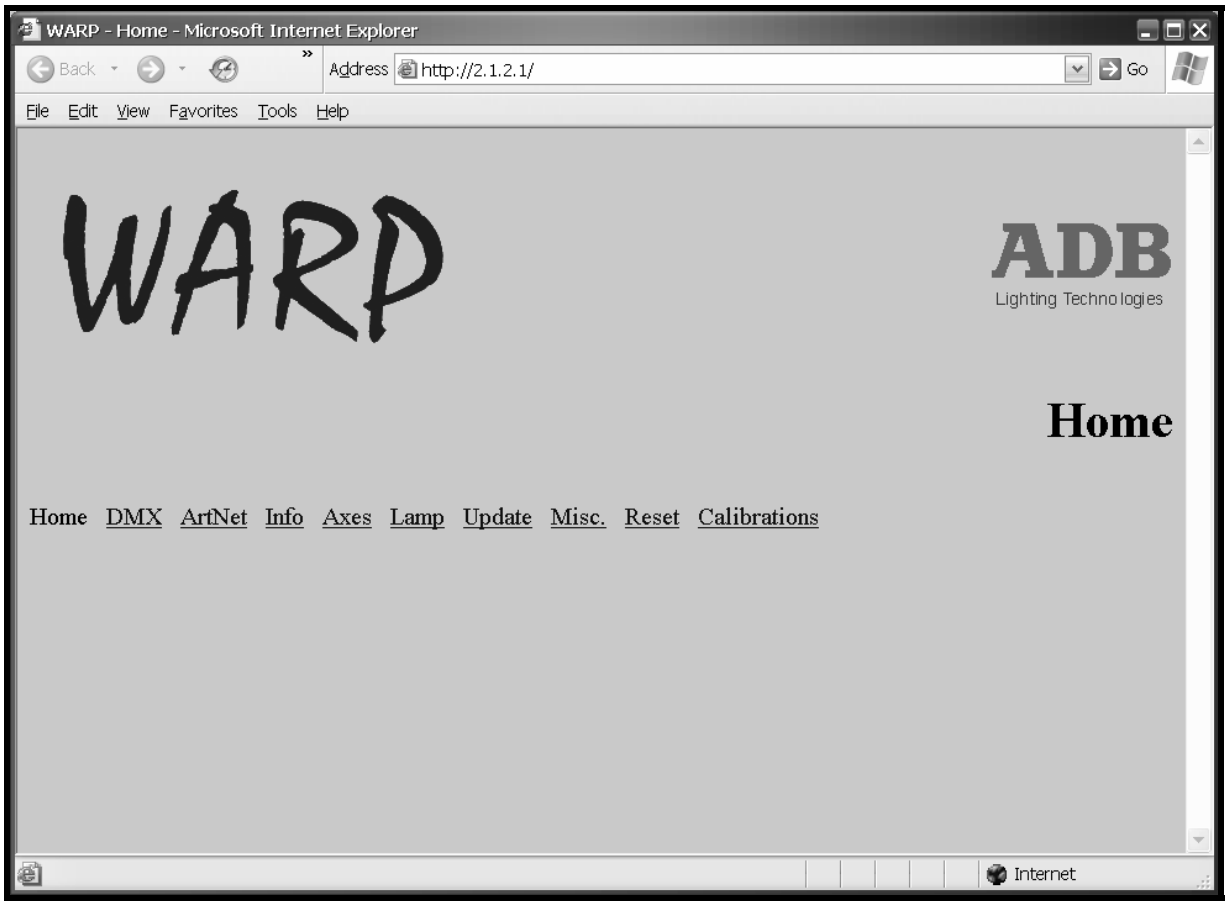
Web pages are familiar for internet users. The contents of a webpage reflect the information which was received during the latest Refresh. This is nice when you wish to view pages off-line – but it also means that you must refresh in order to see the most recent update.

Typing the IP address of the WARP in the browser will open its Home page.

Hyperlinks appear on the Home page. Please click on the appropriate link!

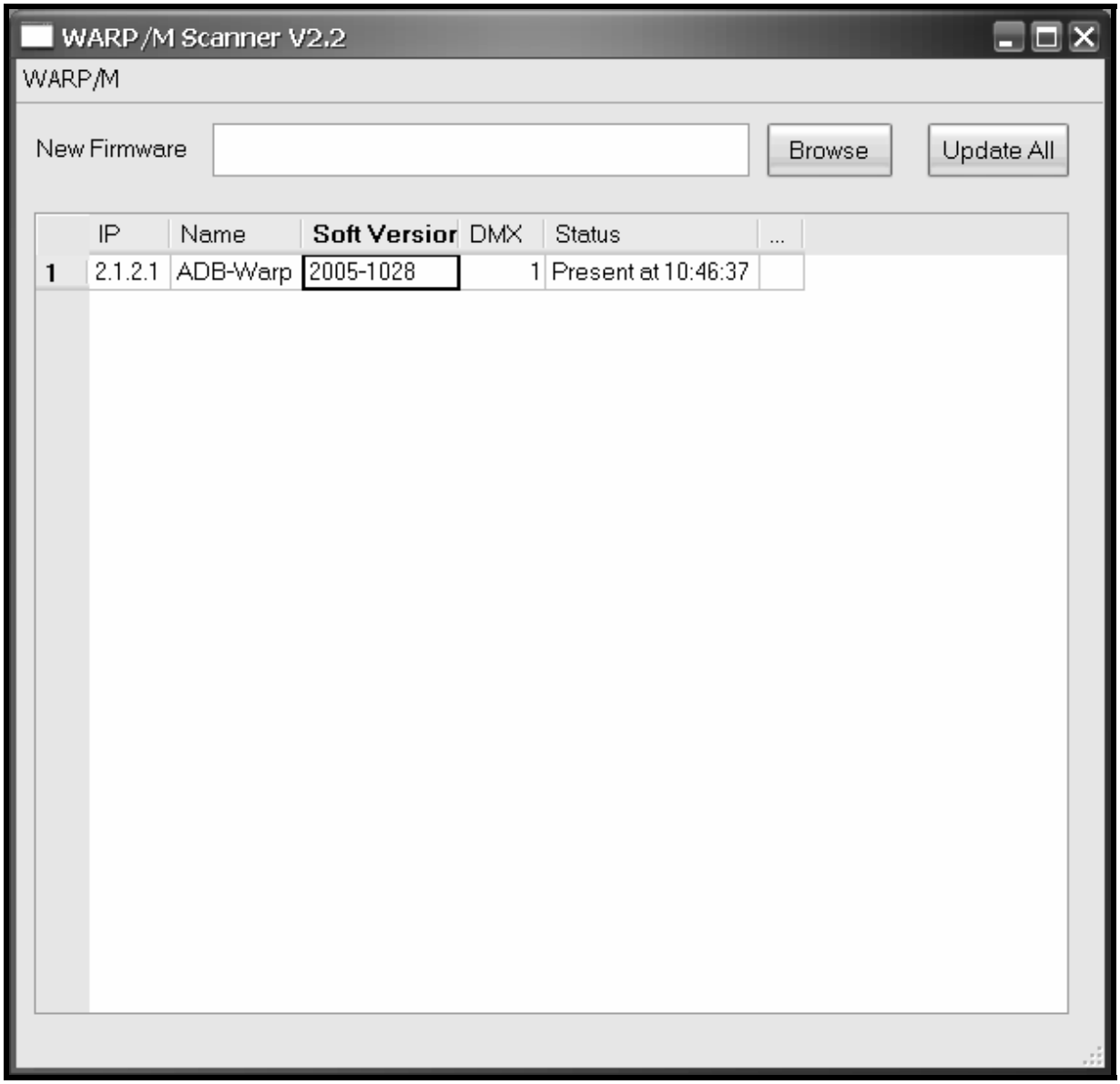
After connecting, click Refresh to download the current parameters from the WARP you're now working with. (This erases the webpage content of the earlier session).

You can edit the parameters on the browser; Update will send these parameters to the WARP.



6.3 WARP Scanner

WARP/M Scanner V2.2 is a PC program which helps to find all the WARPs on the lighting network and gives an overview of all statuses of online WARPs. This scanner program is available on the ADB web site. WARP Scanner runs on Windows NT and XP.

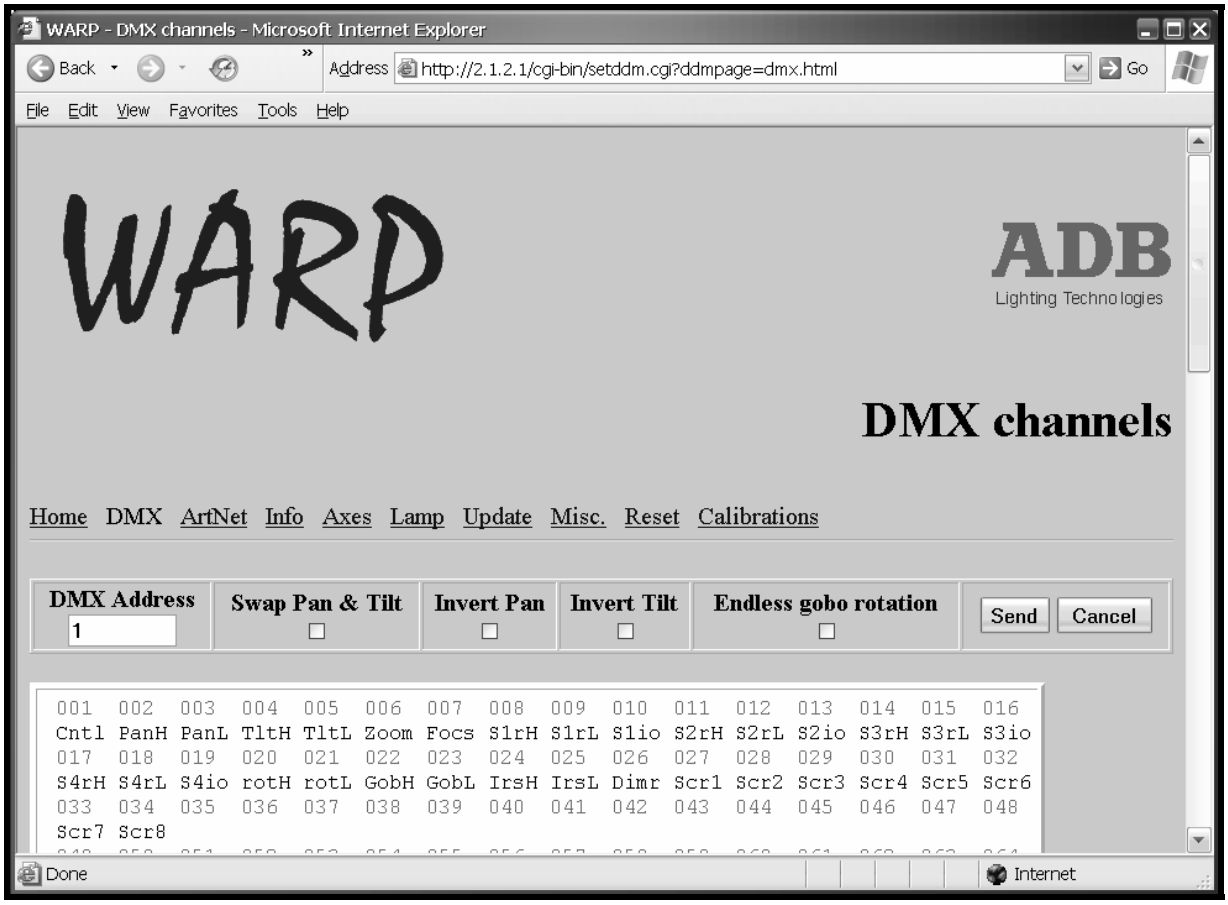


This program auto-detects all WARPs on the Network. Double click on one of the available WARPs, to open its Home webpage.
The WARP/M Scanner program will only detect WARPs if the PC's network card is set on a specific IP address and Subnet, or with DHCP[13].
The WARP Scanner program displays a list of devices, with the IP address, the Name, the Software Version, DMX address and status. Status is similar as the WARP messages on the local display.[14]
Software update: use the Browse function to select the file to be uploaded. Update All will upload the software to all available WARP on the network.[15]

[13] See Addendum 1
[14] See Chapter 7 " Messages on local display"
[15] See also chapter 8 "Software upload"

6.4 DMX channels

Click DMX and then click the browser's refresh icon to view the WARP's current setting:

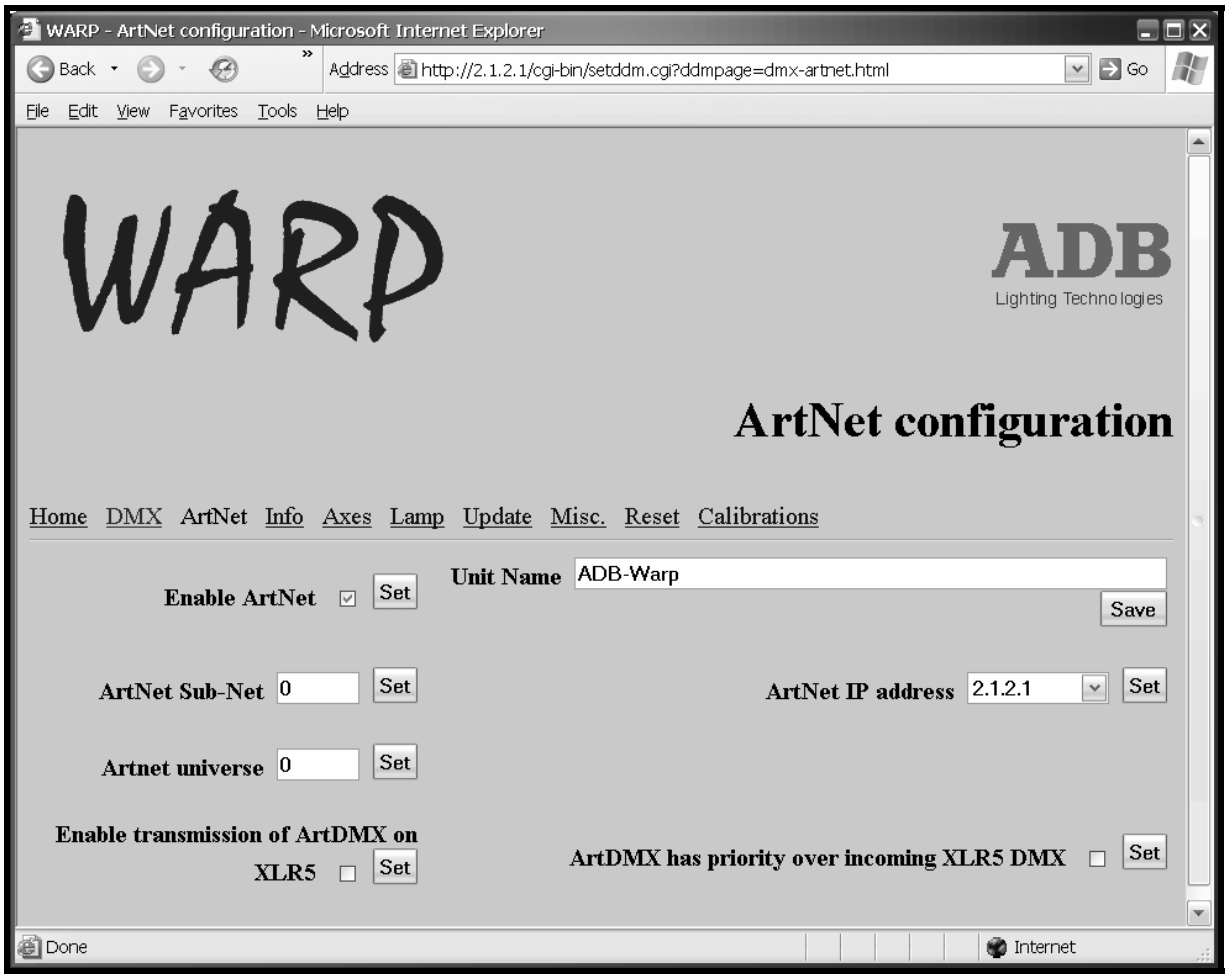

WARP - DMX channels - Microsoft Internet Explorer
Back
Address http://2.1.2.1/cgi-bin/setddm.cgi?ddmpage=dmx.html
Go
File Edit View Favorites Tools Help
WARP
ADB
Lighting Technologies
DMX channels
Home DMX ArtNet Info Axes Lamp Update Misc. Reset Calibrations
DMX Address
1
Swap Pan & Tilt
Invert Pan
Invert Tilt
Endless gobo rotation
Send
Cancel
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016
Cntl PanH PanL TltH TltL Zoom Focs S1rH S1rL S1io S2rH S2rL S2io S3rH S3rL S3io
017 018 019 020 021 022 023 024 025 026 027 028 029 030 031 032
S4rH S4rL S4io rotH rotL GobH GobL IrsH IrsL Dimr Scr1 Scr2 Scr3 Scr4 Scr5 Scr6
033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048
Scr7 Scr8
Done
Internet

Function	Description
DMX starting Address	DMX starting Address
Swap Pan & Tilt	Inverts Pan and Tilt
Invert Pan	Inverts Pan
Invert Tilt	Inverts Tilt
Endless gobo rotation	Selection between Gobo Mode Indexed or Gobo Mode indexed and endless gobo rotation

You can edit the parameters on the browser; Send will send these parameters to the WARP.

6.5 ArtNet configuration

Click ArtNet and then click the browser's refresh icon to view the WARP's current setting:

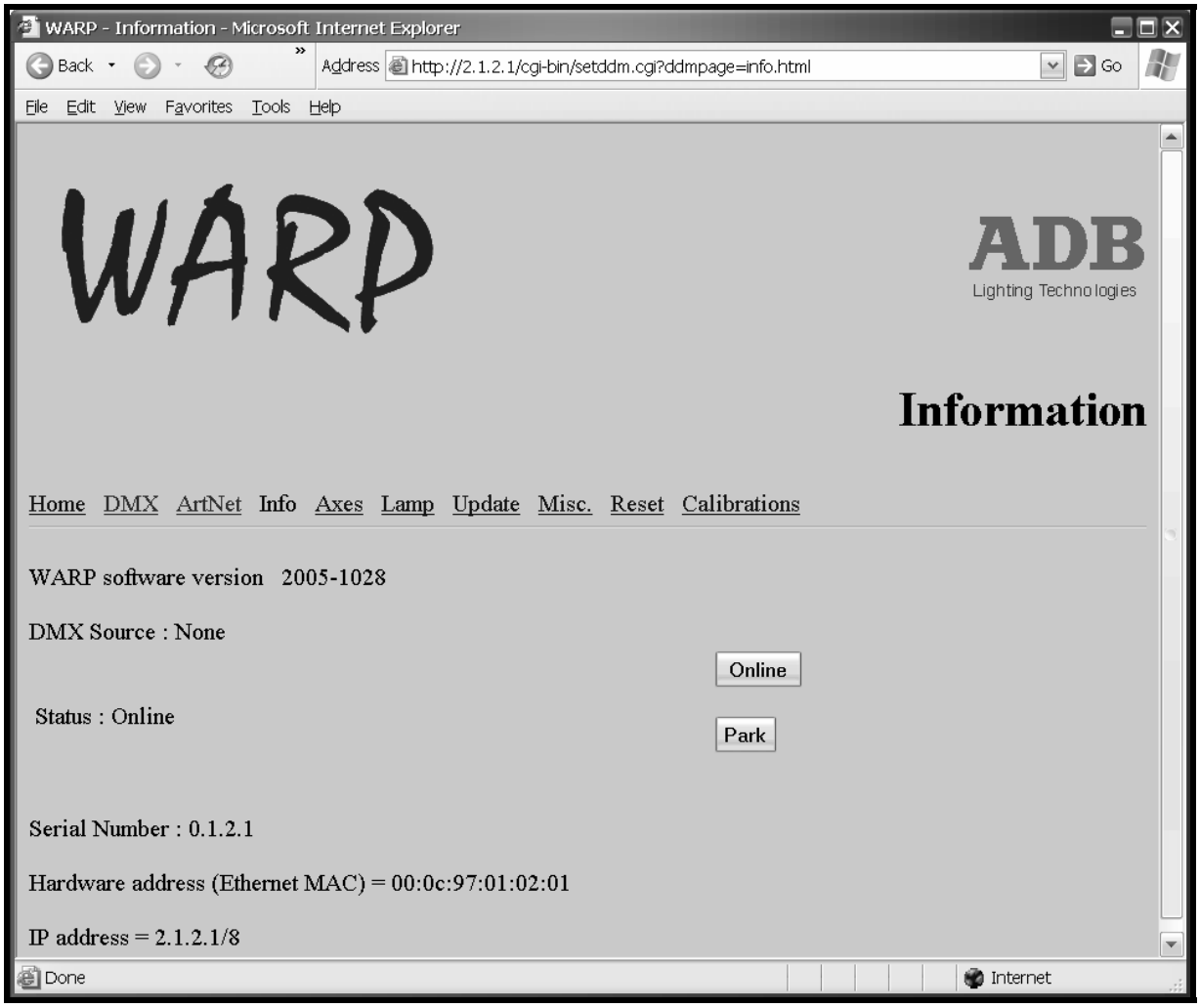


Function	Description
ArtNet Enable	Enables or disables the Network
ArtNet SubNet	ArtNet SubNet (Value between 0 – 15)
ArtNet universe	ArtNet Universe (Value between 0 – 15)
Enable transmission of ArtDMX on XLR5	WARP includes a ArtDMX (Ethernet) to DMX converter, allowing daisy-chaining of WARPs by means of DMX cables
Unit Name	User-defined name for the unit; default name = ADB-WARP
ArtNet IP address	The fixed IP address is an ArtNet IP address, i.e. starting with 2 or 10. Each Motorised WARP has a unique factory-set fixed IP address that is created on the basis of its serial number. It is also possible to work with DHCP-assigned IP addresses. Note: Fixed IP address will disable the DHCP functionality.
ArtDMX has priority over incoming XLR5 DMX	The default priority is 'DMX has priority over ArtDMX'. Ticking this box will invert this priority.

You can edit the parameters on the browser; Set or Save will send these parameters to the WARP

6.6 Information

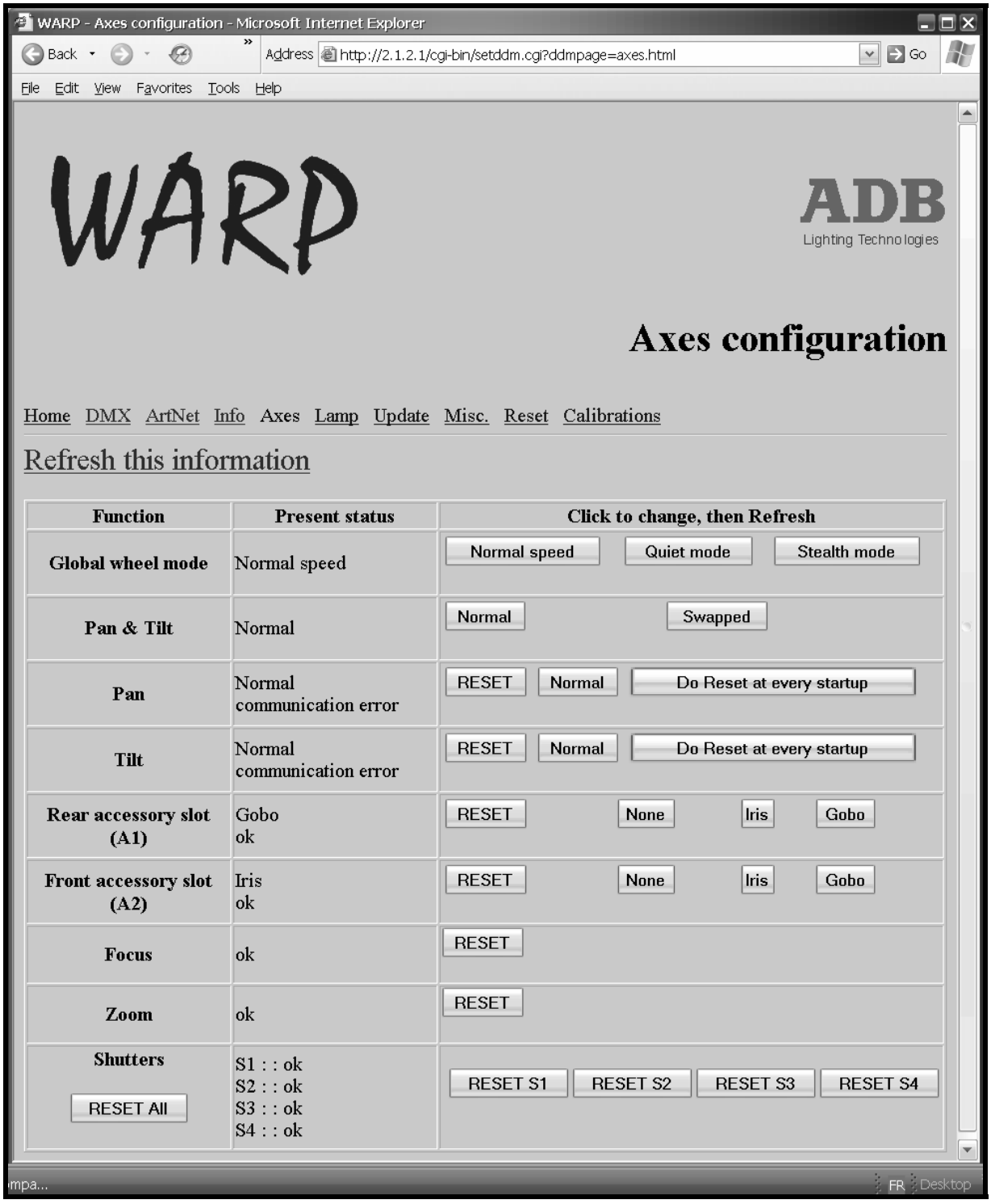
Click Info and then click the browser's refresh icon to view the WARP's current setting:



Function	Description
WARP Software version	Displayed as :"Year-MMDD"
DMX Source	Name of the WARP
Hardware address	Physical address of the WARP
DHCP IP address	IP address assigned by DHCP (192.168.0.1 if no DHCP server)
Static IP address	2.xxx.xxx.xxx or 10.xxx.xxx.xxx related to the physical address of the WARP
Online	Recover from park, home and Accessories insertion mode. Recover from accessories insertion mode will always force a reset on gobo / iris wheels
Park	Freezes the luminarie in the present state

6.7 Axes and Wheels configuration

Click Axes and then click the browser's refresh icon to view the WARP's current setting:
This page allows configuring, calibrating and resetting the PAN and TILT; it also allows configuring and resetting the accessory slots. (iris + gobo, iris or gobo)



Clicking on one of the functions will immediately send the change to the WARP.
Present status will indicate selected parameter and/or the status of the function.
Refresh the information before reading the status.

Web page

Status can be:

ok:	Function is ok
Resetting:	Function is resetting
Calibrating:	Function is calibrating
Communication error:	Hard- or software problem – Refresh the information screen. If the error remains: contact your local ADB dealer.

Function	Description
Global Ring Speed Mode	WARP provides 3 speed settings: 1. NORMAL SPEED is best for most applications. 2. QUIET SPEED provides less noise in applications where speed is less important.(Half normal speed; not applicable for Pan and Tilt) 3. STEALTH SPEED provides almost no noise in applications where speed is not important. (All parameters.) Note: QUIET and STEALTH are only useful during performances. They are not useful during plotting since the WARP would seem sluggish. The best way to use those settings is during programming by using the control channel.
Pan & Tilt	Mode 1. Normal 2. Swapped: Invert Pan and Tilt
Pan	Reset: Reset Pan Mode: 1. Normal (use 'Absolute values') 2. Do a Pan Reset at every power up (Reset Mode)
Tilt	Reset: Reset Tilt Mode: 1. Normal (use 'Absolute values') 2. Do a Tilt Reset at every power up (Reset Mode)
Front accessory slot	Reset: Reset the Front accessory Mode: 1. None 2. Iris 3. Gobo Selecting an accessory will place the rings for the WARP SLOT in the insert position, provided DMX Value = 0 or no DMX is present. Standard WARP personalities will set the rear slot to Gobo.
Rear accessory slot	Reset: Reset rear accessory Mode: 1. None 2. Iris 3. Gobo Selecting an accessory will place the rings for the WARP SLOT in the insert position, provided DMX Value = 0 or no DMX is present. Standard WARP personalities will set the front slot to Iris.
Focus	Reset: Reset of Focus
Zoom	Reset: Reset of Zoom
Shutter	Reset all shutters Reset S1 : Reset and rotation of shutter 1 Reset S2 : Reset and rotation of shutter 2 Reset S3 : Reset and rotation of shutter 3 Reset S4 : Reset and rotation of shutter 4

6.8 Lamp relay

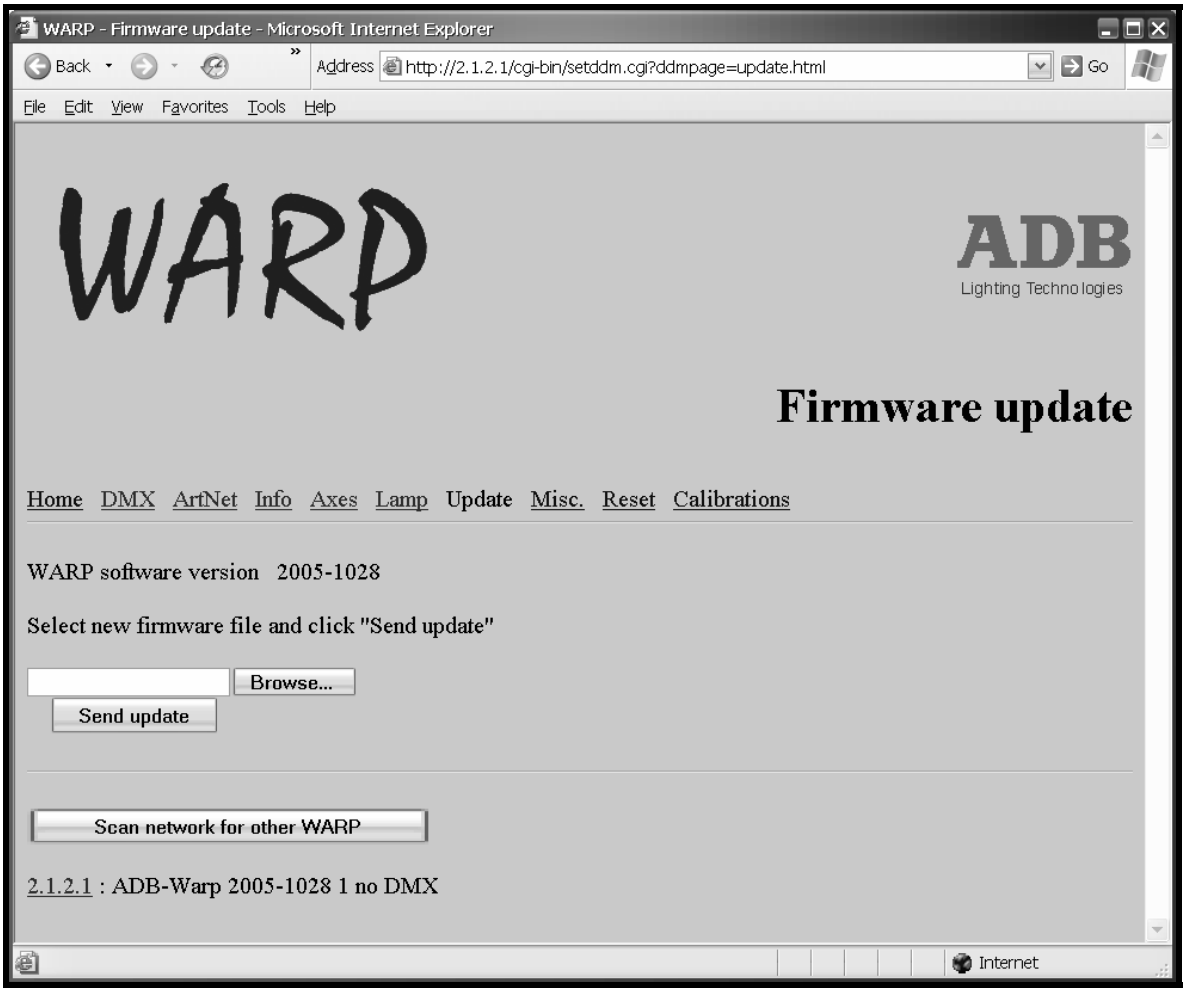
Click Lamp and then click the browser's refresh icon to view the WARP's current setting.

Function	Description
Lamp relay current status	Relay is On or Off
Force lamp relay Off until next Power Up	Force lamp relay to be Off
Turn lamp relay Off if	Turns lamp relay off, depending on selected conditions

6.9 Firmware update

Click Update and then click the browser's refresh icon to view the WARP's current setting. See chapter 8 Troubleshooting and maintenance for full details.

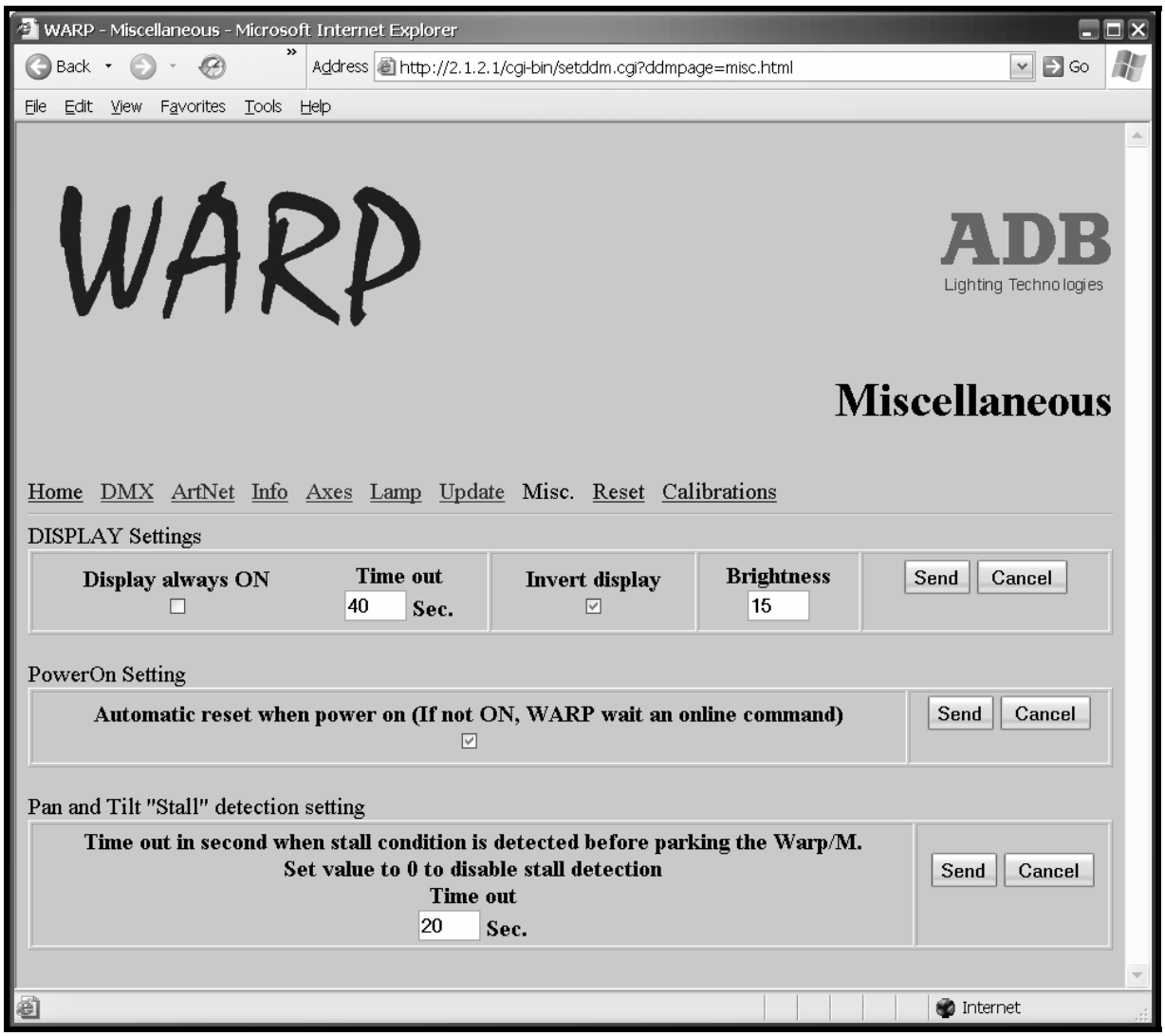
Use the Browse function to select the file to be uploaded. Click Send Update[16].



[16] Also see uploading a new software chapter

6.10 Miscellaneous

Click Misc. and then click the browser's refresh icon to view the WARP's current setting:



Function	Description
Display always On	
Time out	Display auto off
Invert display	Tick box when WARP is standing; don't tick when it's hanging.
Brightness level	value between 0 and 15
Power Up Setting	Enable: at power up, WARP will Reset all necessary rings. Disable: at power up, WARP will wait for the online[17] command before Resetting the necessary rings.
Stall detection settings for Pan and Tilt	Stall function If the WARP is consistently being hindered by an immovable object, the WARP will go in Stall. Stall: WARP freezes and lamp relay goes Off. A Stall time is given to the Stall function before the WARP will go in Stall. If in Stall: "Stal" is displayed on the top box display. The Stall time is a value between 0 and 60 seconds. 0 seconds disables the Stall function. Recover from Stall: online function or Press Enter on the top box

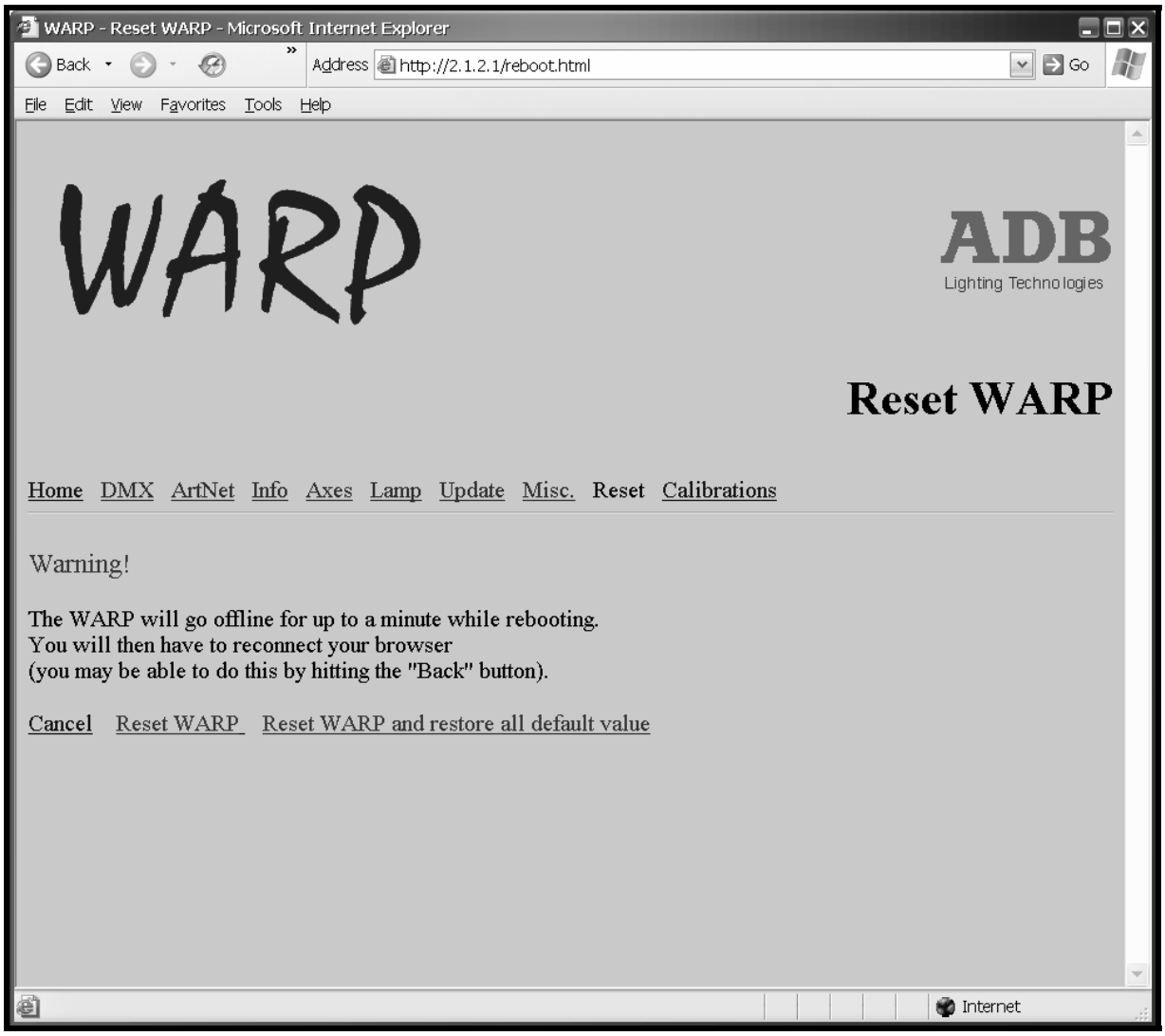
You can edit the parameters on the browser; Send will send these parameters to the WARP.

[17] See Control channel and Web page information

6.11 Reset WARP

Click Reset or Reset WARP and restore all default value and then click the browser's refresh icon to view the WARP's current setting:

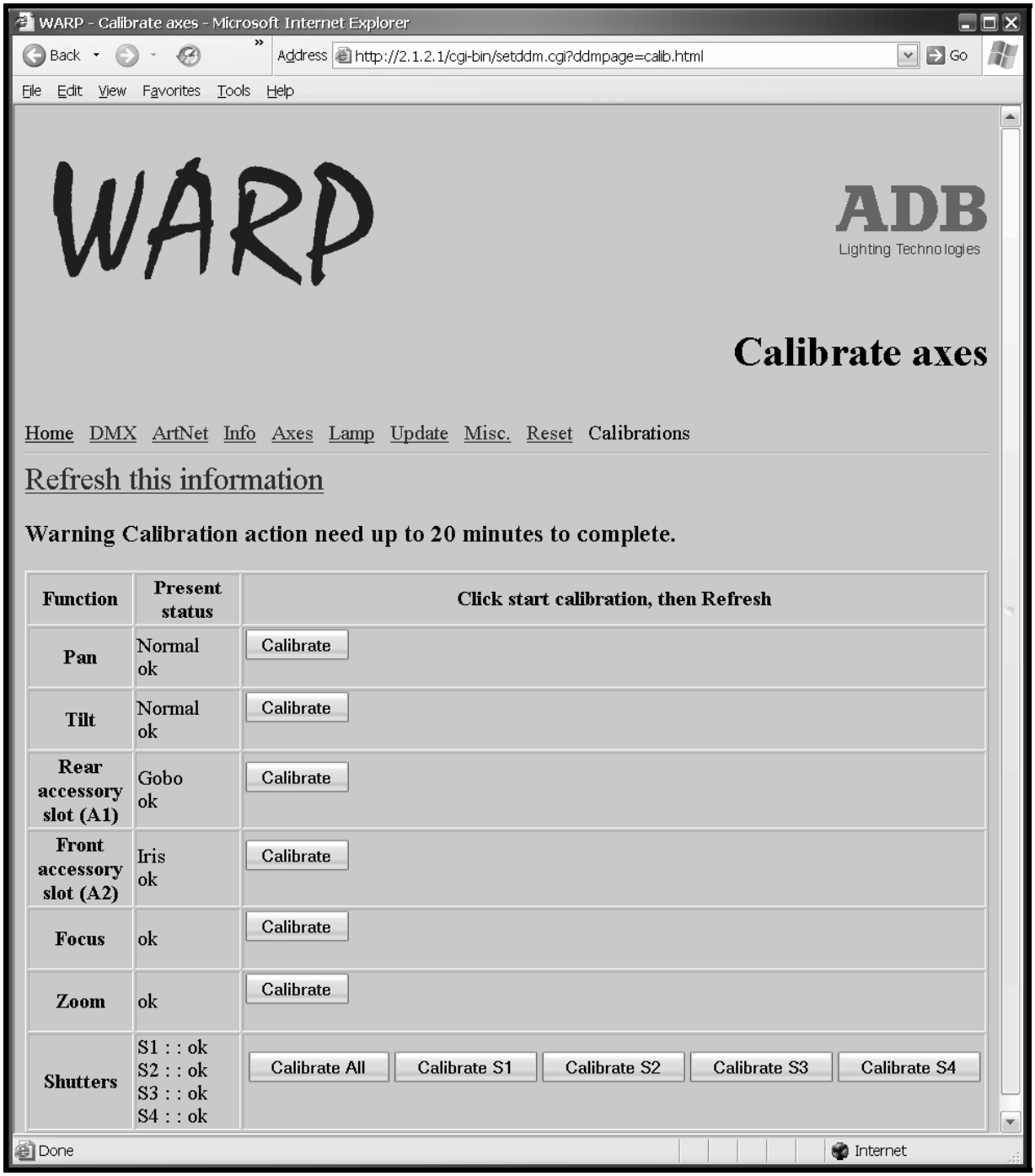
Be aware: the WARP will go offline during reset, it is necessary to refresh the webpage after a reset!


WARP - Reset WARP - Microsoft Internet Explorer
Back
Address
http://2.1.2.1/reboot.html
Go
File Edit View Favorites Tools Help
WARP
ADB
Lighting Technologies
Reset WARP
Home DMX ArtNet Info Axes Lamp Update Misc. Reset Calibrations
Warning!
The WARP will go offline for up to a minute while rebooting.
You will then have to reconnect your browser
(you may be able to do this by hitting the "Back" button).
Cancel Reset WARP Reset WARP and restore all default value
Internet

6.12 Calibration

Click Calibration and then click the browser's refresh icon to view the WARP's current setting:
Only necessary for maintenance.

Pan / Tilt: WARP is using absolute positioning technology; a calibration will measure all possible positions Pan and Tilt. The Calibration takes up to 20 minutes.
A calibration of a ring will detect the physical limits of the wheel. (0nly for lenses)



Clicking on one of the functions will immediately send the order to the WARP.

Present status will indicate selected parameter and/or the status of the function. Refresh the page information before reading the status.
Status can be:

ok:	Function is ok
Resetting:	Function is resetting
Calibrating:	Function is calibrating
Communication error:	Hard- or software problem – Refresh the page. If the error remains, contact your local ADB dealer.

7 Messages on local display

7.1 Local WARP messages

Messages on the local display regarding overall status.

Display messages

WARP	Acronym for	Explanation
WARP	WARP booting	WARP software is booting
PARK	PARK mode	WARP is in Park mode
STAL	STALL mode	WARP in Stall mode

7.2 Local calibration and reset messages

Messages on the top box display regarding calibration and reset.

Display messages

WARP	Acronym for	Explanation
P CL	Pan calibration	
T CL	Tilt calibration	
F CL	Focus calibration	
Z CL	Zoom calibration	
S1 CL	Shutter 1 calibration	
S2 CL	Shutter 2 calibration	
S3 CL	Shutter 3 calibration	
S4 CL	Shutter 4 calibration	
A1 CL	Accessory 1 calibration	
A2 CL	Accessory 2 calibration	
P R	Pan Reset	
T R	Tilt Reset	
F R	Focus Reset	
Z R	Zoom Reset	
S1 R	Shutter 1 Reset	
S2 R	Shutter 2 Reset	
S3 R	Shutter 3 Reset	
S4 R	Shutter 4 Reset	
A1 R	Accessory 1 Reset	
A2 R	Accessory 2 Reset	

7.3 Local Error Messages

If a problem occurs during power up, operation or calibration, the local display will cycle through any applicable error message(s) until the end of the list is reached and display the error code in the top box display.
A full reset or a partial reset can be the solution to repair the encountered problem.

Display messages

WARP	Acronym for	Explanation
P NS	Pan no sense	Pan sensor not found
T NS	Tilt no sense	Tilt sensor not found
F NS	Focus no sense	Focus sensor not found
Z NS	Zoom no sense	Zoom sensor not found
S1NS	Shutter 1 no sense	Shutter 1 sensor not found
S2NS	Shutter 2 no sense	Shutter 2 sensor not found
S3NS	Shutter 3 no sense	Shutter 3 sensor not found
S4NS	Shutter 4 no sense	Shutter 4 sensor not found
A1NS	Accessory 1 no sense	Accessory 1 sensor not found
A2NS	Accessory 2 no sense	Accessory 2 sensor not found
INTE	Internal error	Internal communication error
CONT	Contact ADB technician	
LMPE	Lamp relay Error	
HOME	Home	The fixture has received a Home command from the controller; Wait for Home action to complete
-DMX	DMX error	
-RDM	RDM error	
-ETH	Ethernet error	
-ART	ArtNet error	
-ACN	ACN error	

8 Troubleshooting and maintenance

8.1 Software Upload

In some cases, it may be desirable to upload new firmware. This process requires a PC with an Internet browser[18].

To update luminaire software:

Step 1 Download the latest software version from www.adblighting.com
Step 2 Connect the Motorised WARP to the Windows PC with an Ethernet cable (Cross-link cable – without Ethernet Hub/Switch – Standard cable – with Ethernet Hub/Switch)
Step 3 To upload a new firmware it is necessary to change the IP address of your PC[19].

We strongly recommend that before you modify any settings on the PC, you first write down all the original settings. Your notes will come in handy when you need to restore the original configuration of the PC.

Configure a fixed IP address on the PC
This IP address must be in the range[20] 2.xxx.xxx.xxx – subnet 255.0.0.0

Step 4 Open the internet browser on the PC or the WARP Scanner
Step 5 Type in the IP address or use the WARP Scanner – The webpage of the Motorised WARP will open

Step 6 Upload the firmware with Webpage Firmware update or with WARP Scanner

Progress Messages on the WARP display during upload:

WARP display	Explanation
PROG	Start of upload
ERAS	Erases old version
P 00 to P 86	Load new version
P OK	Upload ok
WARP RESTART	WARP Reset
U100 to U199	upload of the first PCB
U200 to U299	upload of the second PCB
U300 to U399	upload of the third PCB
U_OK	Upload completed

DO NOT SWITCH OFF POWER DURING UPLOAD

[18] See also WARP Scanner
[19] This requires Windows network knowledge!
[20] Not described: alternative methods with DHCP server; or with use of WARP IP addresses 198.168.0.1 or 126.xxx.xxx.xxx

8.2 Auto-test routine at power up

WARP executes a comprehensive set of self-tests after power up to check mechanically and electronically functionality. Errors messages – if applicable – are displayed on the local display; WARP Scanner and Webpage.

8.3 Cleaning WARP

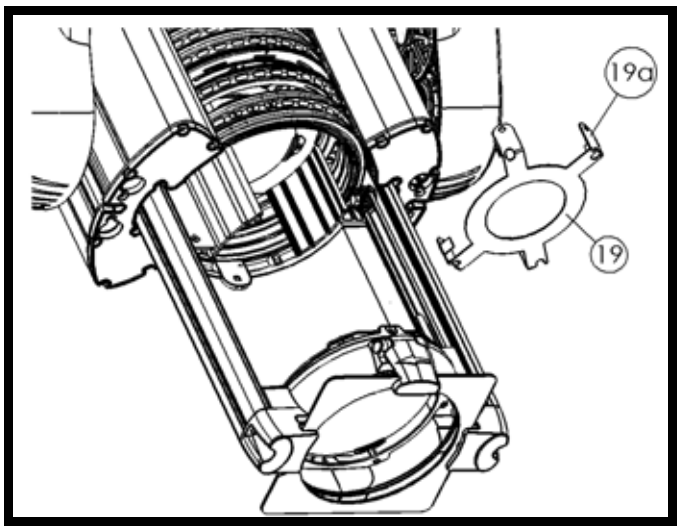
Remove power from the WARP before performing maintenance.

8.3.1 Cleaning Lenses

CAUTION: Special care must be taken when cleaning the lenses, as they are easily scratched! Wait until the luminaire has cooled down.

Use soft tissue paper or a soft cloth, in combination with distilled water and/or isopropyl alcohol, to remove other particles that have accumulated on the lens surface.

To get access to the focus lens, first remove the diaphragm (19) by pressing the flanges (19a) gently towards the centre of the ring. Then move the lens further forward for cleaning.



8.3.2 Cleaning optical sensors and shutters

Cleaning is done with oil-free air[21].

The optical sensors are situated between the motors and the wheels. Inject the air between these two parts, as illustrated.

To clean the shutters: Use dry air to clean and a vacuum cleaner to remove dust and other loose particles.

[21] Try to keep the dry air spray vertical; otherwise thermal shock is possible.

9 Technical Specifications

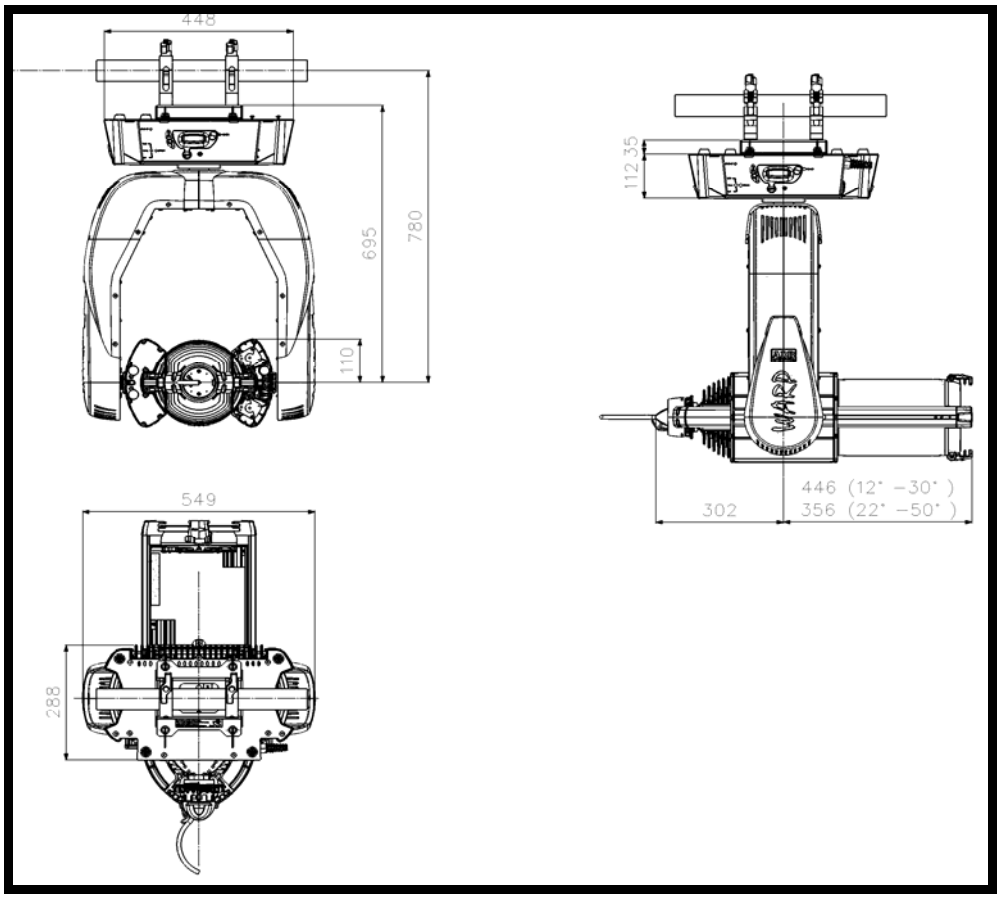
9.1 Ranges and speed (time)

The indication for speed is the time to cover the full range, expressed in seconds.

	Range	Speed Fast	Speed Quiet	Speed Stealth
Pan Maximum	400°	12	12	12
Tilt Maximum	275°	10	10	10
Iris full open to close		4	6	6
Gobo full rotation		6	11	11
Shutter full rotation		4	8	8
Shutter in/out full stroke		2	2	2
Zoom		15	25	25
Focus		7	10	10

9.1.1 Weight and size

	Dimensions (mm)	Weight (kg)
WARP/M/12-30	748 x 550 x 805	32
WARP/M/22-50	658 x 550 x 805	32



9.1.2 Construction materials

The Motorised WARP is flame retardant rated UL94-V0 for the plastic parts.

9.1.3 Electrical

1. The permanent supply cable for the lamp is fixed to the top box (3 x 1.5 mm^2, loose ends)
2. The control electronics are supplied by a PowerCon socket located on the top box.
3. Rated voltage: 230 V 50/60 Hz.
   Working voltage range: 198 V – 264 V.
   Rated power: 800 W for the lamp; 100 W for the control electronics.

10 Helpful Tips

10.1 How to insert or remove an accessory

Inserting or removing an accessory needs to be done correctly.
Inserting or removing in a wrong way can damage the WARP and/or the accessory.

Several types of actions are required
- you must teach WARP about the presence (none / gobo+iris / gobo+gobo).
- you must physically insert (or remove) the accessory

In the personality, in the local menus and on the webpage, iris and the gobo are treated as separate functions (although they are part of one mechanical unit).

10.1.1 Convention

The standard WARP/M personality sets **the front accessory slot to Iris and the rear accessory slot to Gobo**. In case two gobos are used, the rear accessory slot will be Gobo No. 2.

10.1.2 How to insert the iris / gobo holder

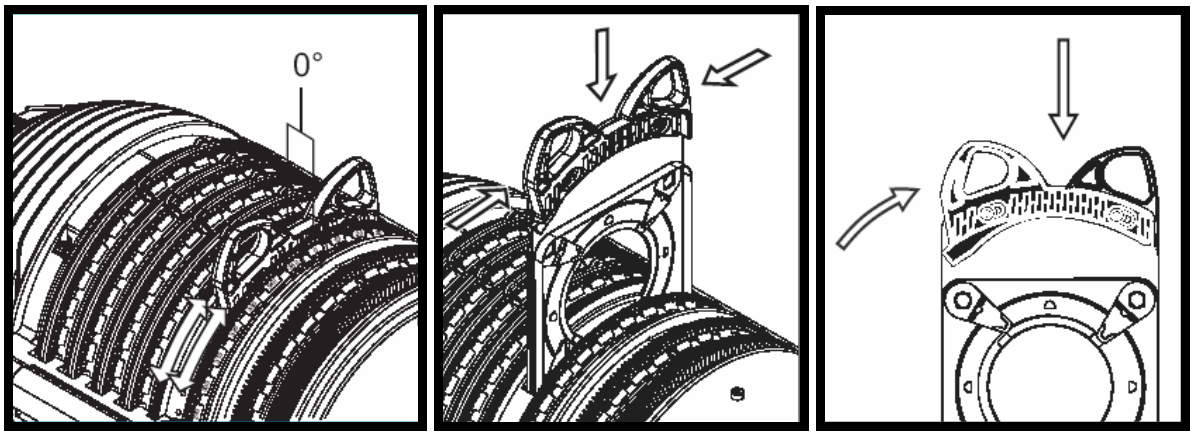
First you must set both accessory rings to the **insert position.** This is the equivalent of the 'click' positions for the manual WARP.

This can be achieved in different ways.
- OR: use the CHNG function[22]
- OR: use the DMX console and set the DMX value to zero (for Gobo as well as for Iris).
  It might be useful to create a suitable 'home position' in your console.
- OR: use the local menu:
  SLOT Enter FRNT Enter will automatically position both rings in the insert position; then select the proper setting.
  Repeat this for SLOT Enter REAR Enter.

Then insert the holder. Squeeze the two 'handles' towards each other to release the locking mechanism, and insert the holder. Secure the holder's safety cable.
Set WARP online if necessary or reconnect the data cables if necessary.

[22] See Menu Functions Local Display

ATTENTION: when you insert the iris, it must be in the Open position.



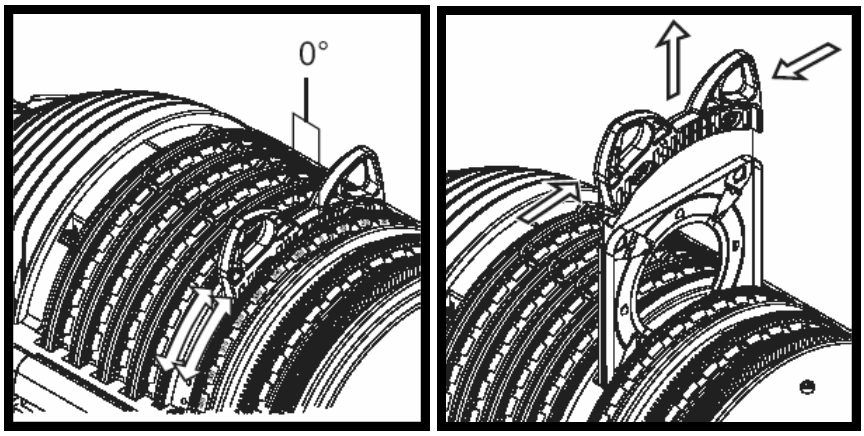
10.1.3 How to remove iris / gobo holder

Before removing an accessory it is important to set both accessory slots to the **insert position.** This is the equivalent of the 'click' positions for the manual WARP.

This can be achieved in different ways.

- OR: use the CHNG function
- OR: use the DMX console and set the DMX value to zero (for Gobo as well as for Iris).
  It might be useful to create a suitable 'home position' in your console.
- OR: use the local menu:
  SLOT Enter FRNT Enter will automatically position both rings in the insert position; then select the proper setting.
  Repeat this for SLOT Enter REAR Enter.

Then remove the holder. Squeeze the two 'handles' towards each other on either side, to release the locking mechanism, and pull out the holder.
Set WARP online if necessary or reconnect the data cables if necessary



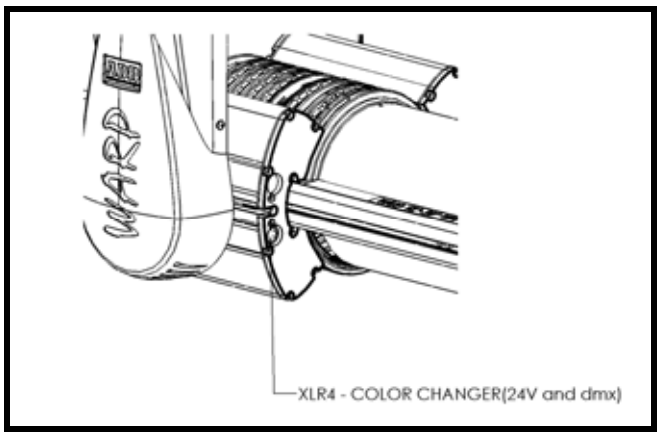
Accessory calibration: only while no accessory is inserted

10.2 How to add a colour scroller

Adding a scroller to the WARP requires an ADB scroller or ADB adaptation plate[23].

10.2.1 Convention if not ADB scroller

- The WARP/M accepts all colour scrollers with a weight up to 2,7 kg.
- The XLR4 connector on the motor-house provides DMX data and Power Supply (24Vdc / 1A). For other voltage and/or current ratings it is necessary to use an external supply.



10.2.2 Pin out definition of the 4 Pin output connector

PIN number	Connector
1	COM
2	DMX -
3	DMX +
4	24 Vdc/1A
Case	Shield ground

[23] ADB scroller adaptation plate : ADB reference: APL-CC/WARP

10.2.3 Adding the scroller

- Screw the adapter plate to the scroller. This adapter plate fits a wide range of different scrollers.
- Insert the scroller into the WARP.
- Connect the safety cable.
- Connect the XLR4 cable [24].
- Set the DMX address of the scroller to 1. (If dc power is necessary, wait until after the power up of the WARP/M)
- **Rebalance the** WARP[25]
- Power up the WARP.

10.2.4 DMX mapping for the colour scroller

WARP/M remaps the scroller address[26]. The scroller becomes a part of the WARP personality. The WARP/M DMX footprint includes 8 DMX addresses for the external output[27]. When the data appears on the XLR4 connector, these addresses are shifted to a start address = 1.
User benefit: you can set all scrollers to DMX start address = 1.

Example: scroller has 3 parameters: colour, speed, fan.
External 1 becomes colour, external 2 becomes speed, …

10.2.5 Removing the scroller

After you have removed the scroller, you must rebalance the WARP/M.

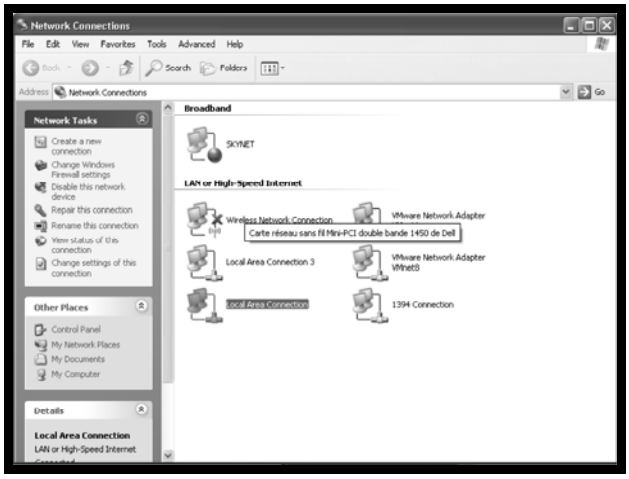
[24] XLR4 cable delivered with each ADB scroller and adapter plate
[25] See chapter 3.5.1
[26] Scroller address must be set to 1 for all scrollers
[27] See chapter 5.1.1

11 Addenda

11.1 Addendum 1: How to set-up a network card for ArtNet (WinXP)

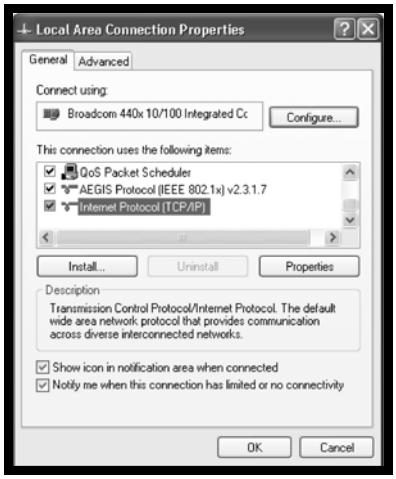
Step 1: you'll check the current setting on your PC, and write it down.

WindowsStart > Settings > Control Panel > Icon: Network and Internet connections



Icon: Internet connections > Local area connection status

Click Properties. This opens a new window "Local Area Connection Properties"



Select Internet Protocol (TCP/IP) and click Properties

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
2 . 1 . 1 . 1
Subnet mask:
255 . 0 . 0 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

This opens a dialogue window "Internet Protocol (TCP/IP) Properties".
Very Important: now make careful notes of the settings as they are. You may need these later to restore the original configuration.

Step 2: select the bullet: "Use the following IP address"

Step 3:IP address: enter an IP address, for example 2.1.1.1
Subnet Mask: 255.0.0.0
Click OK to close the window "Internet Protocol (TCP/IP) Properties".
Click OK to close the window "Local Area Connection Properties".
Close the window "Network Connections".

11.2 Addendum 2: Downloading of personalities for consoles

Personalities for various lighting consoles will be made available on the ADB website.
Contact your local distributor or support@adblighting.com for more information.

12 Spare Parts

This is only a small selection of the well defined spare parts for first line maintenance. A complete list of spare parts is available in the service manual. Service manual is at the disposal of qualified service technician's or ADB customer service. To become a qualified service technician's please contact support@adblighting.com or your local dealer.

Spare Part	ADB Reference	Code Number
G 9.5 axial bi-plane filament halogen lamp 230V-800W-3200K	800W/G9.5/3200K	2990.40.500
G 9.5 axial bi-plane filament halogen lamp 230V-600W-3200K	600W/G9.5/3200K	2990.40.405
Entrance zoom lens for WARP/12-30	PC114/RC102	1001.61.300
Lamp assembly		1001.61.000
Output zoom lens for WARP/12-30	BC160/AS	1001.61.310
Entrance zoom lens for WARP/22-50	BC100/AS	1001.61.320
Output zoom lens for WARP/22-50	PC135/AS	1001.61.330
Top box Fuse – 6,3A 250V SPT 5 x 20mm	Fuse Kit	1001.65.300

13 Notes

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